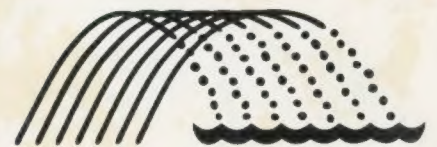


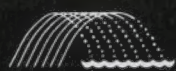
**We are
your
opportunity**

Delta College

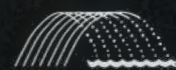


1993-1994





Delta College



**A place large and free
enough for you to learn,
experience and grow
to your full potential...**

**A place small enough
to make this process
meaningful and
personal...**

**A place diverse enough
to make it extremely
interesting, challenging,
and rewarding.**

Mailing Address: University Center, Michigan 48710

Telephones: (517) 686-9000 (Switchboard)
(517) 662-4431 (from Midland)
(517) 686-9555 (24 hour information line)
(517) 686-0573 (Telecommunication device
for the deaf/TDD)

FAX: (517) 686-8736

Delta College personnel made every reasonable effort to determine that everything stated in this catalog was accurate at the time it was printed. Courses and programs offered, tuition and fees, services, and the academic calendar, together with other matters contained herein, are subject to change without notice by Delta College for reasons related to student enrollment, level of financial support, or for any other reason, at the discretion of the College. Delta College further reserves the right to add, amend, or repeal any of their rules, guidelines, policies and procedures. Although the provisions of this catalog are not to be regarded as a legal contract, students enrolled at Delta College are responsible for all regulations in this catalog as well as additions or changes to regulations as they are posted or printed in other College publications.

WELCOME TO DELTA COLLEGE

- 1. Table of Contents**
- 2. Welcome from Our President**
- 3. Accreditation and Memberships**
- 4. Introducing Delta College**
- 5. Profile of Our Students**

Table of Contents

It was our aim, as we prepared this catalog, to provide you with a tool that will be of help to you throughout the time you spend with us at Delta College pursuing your educational goals. We hope you will find it useful, whether you are a new student, a returning student, or a member of the community involved in our various outreach activities. The Table of Contents below tells you what is covered in each section of this catalog. If you are looking for a specific topic, check the Index on page 198, where you should find that topic listed, along with the page on which you will find the information. If you come across a term you don't understand, check page 196 for Definitions of College Terms. If you can't find information important to you or you find something confusing, stop in at the Welcome Center and talk with the staff. They will be able to clarify for you or direct you to the appropriate staff person for an answer, and they will pass on to us anything you think should be added to or changed in this catalog.

Welcome to Delta College and HAPPY READING!

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"I Decided on Delta!"

"I chose Delta because of the people. I think the faculty and administrators are very helpful and courteous. Dealing with nice people helped me make a smooth transition between high school and college."

Monica Hernandez
Caro

Welcome

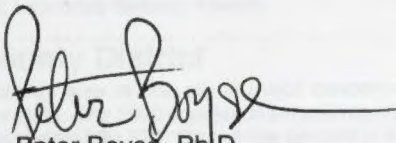


On behalf of our Board of Trustees, students, faculty, staff, and administration, I welcome you to Delta College. Since I came here five years ago, many changes have taken place locally, statewide, and on the national level. One thing, however, remains constant. Whether you are a new or returning student, our goal remains the same—to offer quality education to meet your needs and interests.

At Delta College, we are proud of our ability to help all kinds of students from all walks of life—students planning to transfer to four-year colleges and universities, students seeking an occupational degree or certificate, students seeking new career paths, students participating in job retraining by developing new skills, and students who are interested in learning for learning's sake.

This is what makes Delta College so unique. For over three decades we have been offering a broad range of courses and programs taught by dedicated and professional faculty highly responsive to your individual needs.

The rewards of a quality education are numerous. Look around you. Thousands of Delta graduates, people just like you, are the teachers, the health professionals, the business owners, the leaders of our community. Accept my challenge to you to use your time and effort here wisely, because the quality education you receive at Delta College is your investment in your future.


Peter Boyse, Ph.D.
President

Accreditation and Memberships

**Accredited Continuously by:
North Central Association
of
Colleges and Secondary Schools**

Approved by the Michigan Department of Education

Accrediting/Approving Agencies

Accreditation Board for Engineering Technology

- Electronic Engineering Technology
- Mechanical Engineering Technology

American Dental Association Commission on Dental Accreditation

- Dental Assisting
- Dental Hygiene

American Medical Association Committee on Allied Health Education and Accreditation

- Radiography
- Respiratory Therapy
- Surgical Technology

American Physical Therapy Association Commission on Accreditation in Physical Therapist Education

- Physical Therapist Assisting

Michigan Board of Nursing

- Practical Nursing
- Registered Nursing

Michigan Department of Natural Resources

- Water/Wastewater Treatment Technology: Operator Training

Michigan Department of Public Health/Water Division

- Water/Wastewater Treatment Technology

National Automotive Technicians Education Foundation

- Automotive Service Technician

National League for Nursing

- Registered Nursing

College Memberships

American Association of Collegiate Registrars and Admissions Officers (AACRAO)

American Association of Community Colleges

American Council on Education

American Management Association

Associate Degree Council, National League for Nursing

Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO)

Michigan Community College Association

Michigan Community College Community Service Association

Michigan Occupational Deans' Administrative Council

National Association of College and University Business Officers

National League for Innovation in the Community College

National Association of Student Aid Administrators

Practical Nursing Council, National League for Nursing

Affirmative Action Statement

Delta College is committed to providing equal opportunity through its employment practices, educational programs, and through the many services it provides to the community. The College will make all personnel decisions, offer programs that will foster educational opportunities, and maintain a program of services designed to serve the community, without regard to, but not be limited to race, color, religion, sex, marital status, age, national origin, or handicap. Furthermore, the College will undertake an affirmative program of action to expand equality of opportunity in employment. The College will develop and maintain educational programs and services that are sensitive to the emerging needs of members of minority groups, women, and the handicapped. And finally, the College will initiate programs that will increase, on the part of all personnel, a sensitivity to the interests and needs of those who have historically been discriminated against. (Board of Trustees 4/83)

Inquiries regarding the Delta College non-discrimination policy may be directed to the Affirmative Action Officer located in A-2, Lower Level. If you wish to contact the Office of Civil Rights directly, mail inquiries to the Office of Civil Rights, Region Five, Pl. Bldg., Room 222, 55 Erie View Plaza, Cleveland, Ohio 44114, or phone (216) 293-4970.

Introducing Delta College

Delta College Begins

Delta College has continued, without interruption, the educational opportunities that were previously provided by Bay City Junior College. In the mid-1950's, as the demand for education beyond high school increased in the tri-county area, the percentage of students attending Bay City Junior College from outside the K-12 Bay City Public School District steadily increased. The enrollment was approximately 50 percent non-resident, with about 40 percent of the enrollment coming from Saginaw. Early in 1955, seven community leaders from Bay, Midland and Saginaw met to discuss the possibility of a tri-county college. Their interest and action prompted the following developments:

1955: Organization of the Tri-County Committee of 300 formed to study the needs of higher education in the Saginaw Valley area.

1956: The final report of the Committee of 300, outlining the need to establish and finance a new college, was received.

1957: Legislation was submitted to the State of Michigan Legislature to finance and establish a new institution of higher education.

1957: Voters of Bay, Saginaw, and Midland counties formed a community college district under Act 182 of the Public Acts of 1957 and authorized a levy of 1.5 mills to construct and operate a college.

1958: Bonds were sold to provide the financial structure for Delta College and campus construction began.

1959-61: Members of the faculty and staff of Bay City Junior College assisted in planning for the new college. Many of the Bay City Junior College faculty, students, and staff became part of the new college as Bay City Junior College operations were assimilated into Delta College.

1961: Delta College opened.

Campus Site

The College is located on a 640-acre campus complex in Bay County. Noted for its beautifully-landscaped center garden, the College has miles of nature trails, an outdoor classroom, running and fitness trails, tennis courts, and archery and golf areas, as well as a covered bridge. The natural surroundings of Delta College positively enhance the learning process of students. The Delta College site, at University Center, Michigan in Bay County, lies almost midway between the counties' major cities of Saginaw (69,512), Bay City (38,936), and Midland (37,819). This triangle forms the heart of the Saginaw Valley area which is drained by the Saginaw River and its tributaries, northward to the Saginaw Bay and Lake Huron. Bay County adjoins the Saginaw Bay, an important recreational area and waterway whose ports are part of the St. Lawrence Seaway system.

Tri-County District

The tri-county area is one of the major concentrations of population within the state. The 1990 population census reports an area population of approximately 399,320. Sixty-three percent of the people are classified as urban residents, with 44 percent residing within city limits.

The high percentage of urban population can largely be explained by the concentration of industry within the area. Over 95 percent of the employed work force are in occupations other than agriculture. Each county has a major concentration of industry. The Dow Chemical Company and Dow Corning Corporation have large plants and international corporate headquarters in Midland. Bay City's employment centers around Chevrolet Motors. Saginaw, the largest industrial center, has a number of General Motors industries and has the largest foundry concentration in the country.

The tri-county area is also well known for its agricultural products. Sugar beets, beans, and potatoes are grown extensively throughout the Valley. On a national basis, Saginaw and Bay County rank number one and two in sugar production and one and five in bean growing, respectively. Beans are shipped from the area to foreign ports.

Accreditation

Delta College is accredited by and is a member of the North Central Association of Colleges and Secondary Schools (NCA). Initial accreditation was granted the College in October, 1962 by the Michigan Commission on College Accreditation. A status study to prepare for candidacy was submitted to the NCA in May, 1964, as a first step toward regional accreditation. College officials were notified in July, 1966, that the College had been accepted as a candidate for accreditation based on a report of a NCA visitation team. The Self-Study Report was completed in May, 1967, and accreditation was granted in April of 1968. NCA has subsequently reaccredited the College in 1973 and 1984 and the College is scheduled to be evaluated once again in 1993-94. Several occupational academic programs also have received additional accreditation status from their corresponding professional boards, councils, or regulatory groups.

National League for Innovation

Delta College is a charter member of the National League for Innovation in the Community College. The League is comprised of 17 college districts with 54 campuses in 11 states, enrolling more than 500,000 students. Delta's membership is significant recognition that it is devoted to the improvement of learning through experimentation and innovation. The League places a strong emphasis on research, evaluation, and dissemination of information on innovations. In this way, potentially valuable new approaches to instruction are made known and an opportunity is provided to judge their suitability for use at other colleges. Participation in League activities enables Delta to adapt and adopt those innovative practices which have proved effective elsewhere, while sharing the results of its own innovations with colleges in other districts. This means that residents of all ages in the tri-counties have the opportunity to share in the benefits of improved instruction and services provided by the College.

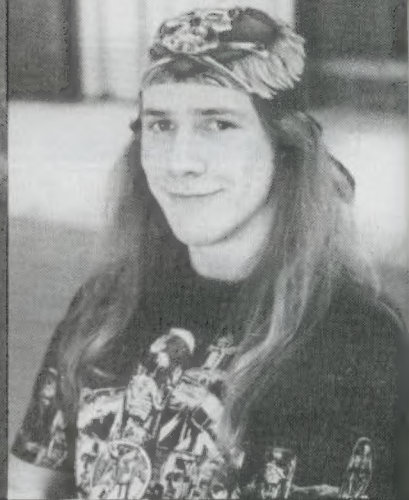
Mission Statement

Delta College is a community college with the mission to provide comprehensive post-secondary programs and services that are accessible to its constituents. To this end Delta is committed to leadership in meeting the educational and training needs of the community, to the delivery of high quality instructional and support programs to a broad range of students, and to equal access to educational opportunity through open admissions.

Delta is dedicated to an open relationship with business, industry, and the professions as well as other institutions or groups where cooperative efforts may be mutually beneficial.

Delta is committed to the social, cultural, and economic development of the College district.





Values Statement

At Delta College, we value our students, our employees and our constituents. As we hold the institution in trust for them we aspire to these ideals:

The Learning Experience and the Pursuit of Knowledge: Our students and our personal and intellectual growth depend upon the pursuit of knowledge and an appreciation for life-long learning.

Access: Our commitment to an open-door policy ensures that our constituents may exercise their legitimate right to access College services.

Professional Integrity and Collegiality: Our ethics and our respect for others guide our relationships, professional activities, and the performance of our duties to the best of our ability.

Academic Freedom: Our dedication to the free exchange of ideas and information promotes our growth as an educational institution.

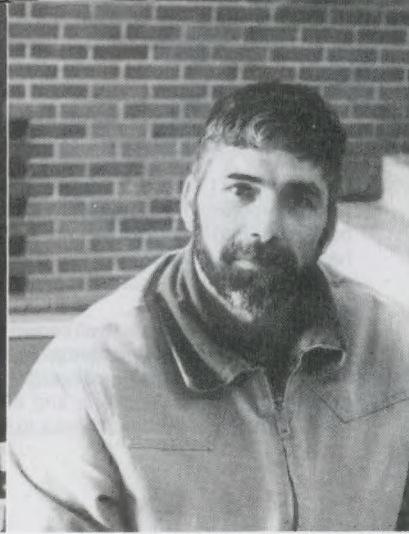
Quality: Our commitment to quality programs and services ensures our response to a dynamic environment through self-evaluation and innovation.

Diversity: Our College reflects the needs of our diverse College community.

Shared Governance: Our trust in shared governance compels us and our students to contribute to the evolution of College policies and operating procedures.

Community Leadership and Service: Our local and global participation and leadership exemplifies dedication to our mission.

Environmental Safety: Our obligation to clean, comfortable, safe, efficient, and current facilities aids in the fulfillment of the Delta College mission.



Profile of Our Students

When Delta College opened its doors in September, 1961, there were 1,700 students, and with few exceptions, enrollment has increased every semester. In the Fall Semester 1992, approximately 11,500 academic and skilled trades students plus 2,000 community education students were enrolled in courses and programs on the Campus and throughout 29 neighborhood centers. Who are these students and why do they enroll at Delta? Actually, there is no Delta College student stereotype. Students differ considerably in their ethnic, social, and economic backgrounds and their educational goals. Most students (about 88%) reside in the tri-county district and more students are enrolled on a part-time basis than those attending full-time because most students are also working full or part-time. Some are rich, some are poor, most are neither, but approximately 70% of students enrolled for six or more academic credits receive some form of financial aid. Some have precise career plans while others want to explore before they decide; some are taking classes for personal enrichment reasons. What most have in common, though, is that they are seeking to learn and improve their lives. Over the years, students have been asked about their reasons for choosing and attending Delta and the five major reasons given have been: location of Delta (close to home and/or work); curriculum or programs offered; low costs; course work relevant to goals; quality of instruction. The diversity of students at Delta College is illustrated below.*

Class Designation

Freshmen	59.6%
Sophomores	40.4%

Student Age Distribution

19 years old and under	24.9%
20-24	31.4%
25-29	13.9%
30-44	24.6%
45 and over	5.1%
Not designated	0.1%

Gender

Females	61.5%
Males	38.5%

Geographic Residences

Saginaw County	45.9%
Bay County	29.1%
Midland County	13.4%
Other Michigan Counties	11.3%
Out of State	0.3%

Ethnic Backgrounds

Caucasian	86.7%
African-American	6.9%
Hispanic	3.6%
Not designated	1.4%
Asian	0.6%
Native American	0.6%
International	0.1%

Declared Curriculum Choices

Occupational Programs	48.3%
Transfer Programs	30.7%
Undecided	15.1%
Personal Enrichment	4.3%
Not designated	1.6%

Attendance Distribution

Day hours only	50.0%
Day and evening combination	27.7%
Evening hours only	21.8%
Weekends only	0.5%

*Figures based on Fall Semester 1992 and pertain only to students enrolled in academic courses.



THE ENROLLMENT PROCESS

1. Academic Calendar
2. Admission and Pre-Enrollment Information
3. Financial Aid
5. Veterans/Reservists Information
6. Steps to Success Process
7. Registration

Academic Calendar 1993-94

Activity	Spring '93 Semester 15 Weeks	Spring '93 Session 7 Weeks	Summer '93 Session 7 Weeks	Fall '93 Semester 15 Weeks	Winter '94 Semester 15 Weeks	Spring '94 Semester 15 Weeks	Spring '94 Session 7 Weeks	Summer '94 Session 7 Weeks
Applications Available for Financial Aid	Jan. '92	Jan. '92	Jan. '92	Jan. '93	Jan. '93	Jan. '93	Jan. '93	Jan. '93
Admission	Continuous							
District Status Change	One Week Before Your Registration							
Last Day Readmission for Phone Registration	April 8	April 8	April 8	July 13	Nov. 8	April 7	April 7	April 7
Schedule of Academic Classes Available	March Fourth Week	March Fourth Week	March Fourth Week	April Third Week	Nov. First Week	March Third Week	March Third Week	March Third Week
Phone Registration Begins ¹	April 15	April 15	April 15	July 20	Nov. 15	April 14	April 14	April 14
First Day of Semester/Session ²	May 5	May 5	June 28	Aug. 30	Jan. 5	May 4	May 4	June 27
Last Day to Audit ^{2,3}	May 11	May 11	July 2	Sept. 3	Jan. 11	May 10	May 10	July 1
Last Day Add Without Instructor Signature ²	May 11	May 7	June 30	Sept. 3	Jan. 11	May 10	May 6	June 29
Last Day Add/Drop With No Grade ^{2,3}	May 15	May 15	July 8	Sept. 9	Jan. 15	May 14	May 14	July 7
Last Day of Offset ²	June 1	June 1	July 23	Sept. 24	Feb. 1	May 31	May 31	July 22
Last Day for 100% Refund ²	May 11	May 11	July 4	Sept. 5	Jan. 11	May 10	May 10	July 3
Last Day for 50% Refund ²	May 15	May 15	July 8	Sept. 9	Jan. 15	May 14	May 14	July 7
Last Day to Withdraw With "W" ^{2,3}	June 25	May 28	July 23	Oct. 22	Mar. 4	June 24	May 27	July 22
Last Day to Apply for Graduation	June 25	June 25	June 25	Oct. 22	Mar. 4	June 24	June 24	June 24
Last Day to Apply for Pass/No Credit ^{1,2,3}	July 15	June 8	July 30	Nov. 9	Mar. 22	July 14	June 7	July 29
Incomplete Deadline for Required Coursework ³	Dec. 1	Dec. 1	Dec. 1	Apr. 1	Dec. 1	Dec. 1	Dec. 1	Dec. 1
Health Validation Applications Accepted ¹	June 25-Aug. 29	June 25-Aug. 29	June 25-Aug. 29	Oct. 22-Dec. 28	Feb. 25-May 6	June 24-Aug. 28	June 24-Aug. 28	June 24-Aug. 28
Last Day to Withdraw With "WE" or "WP" ^{2,3}	Aug. 12	June 18	Aug. 11	Dec. 12	April 19	Aug. 11	June 17	Aug. 10
Holidays: No Classes	May 31 July 4-5	May 31	July 4-5	Sept. 5-7 Nov. 24-27	Feb. 27-Mar. 5	May 30 July 4	May 30	July 4
Last Day of Semester/Session ²	Aug. 19	June 25	Aug. 18	Dec. 19	Apr. 26	Aug. 18	June 24	Aug. 17

NOTATIONS

¹Dates subject to change. Complete registration information, including Special Phone Registration dates for Health and Nursing First Clinical Courses, is listed in each semester's Schedule of Academic Classes booklet. See Section III, Programs of Study, Health Program Procedures, page 28.

²Some courses begin and end other than these dates; see each semester's Schedule of Academic Classes booklet. Deadline dates apply only to regular semester/session classes; check with the Records & Registration Office for deadlines for these courses.

³For grading policies, see Section IV, Academic Policies and Information, Grading System, pages 78-79.

Community Services Classes: Registration dates, times and procedures are different from above; consult your Community Services Schedule of Classes published each semester.

Admission and Pre-Enrollment Information

Admission Criteria

Delta College has an open-door policy which allows admission of persons from varying ages, backgrounds, interests, abilities, and potential. You are not required to have a minimum grade point average or a certain test score to be granted general admission to the College. Your general admission, however, does not guarantee entry into all academic programs within the College. Academic programs of study that require specific prerequisites or eligibility requirements are outlined in Section VI of this catalog.

If you are included in any **one** of the following categories, you are encouraged to apply for admission:

1. High school graduates.
2. Persons who have passed a high school equivalency exam (G.E.D.).
*Non-high school graduates are encouraged to take the G.E.D. exam; however, G.E.D. results are not required for general admission.
- *3. Adults 19 years of age or older who have not attended high school for at least six months after the time when their high school class would have graduated.
4. Currently enrolled high school students who have permission from their parents and high school counselors or principals.
5. Approved and authorized persons from other countries entering the U.S. for educational purposes under a student visa.

***Note:** If you do not have a high school diploma or have not successfully completed the G.E.D., you may be restricted from receiving federal financial aid if ability to benefit criteria are not met. We encourage you to contact the Admissions Office, the Office of Financial Aid, or the Assessment/Testing Services Office for detailed information concerning ability to benefit.

Admission Dates

Although Admission Applications are accepted and processed up through the first week of classes each semester, we encourage you to submit your Application at least 30 days prior to your enrollment period and preferably as early as six to 8 months. If you plan to request financial aid, it is essential for you to apply for admission and for financial aid 8 to 10 weeks prior to registration.

You may apply for admission for any of the following traditional starting dates:

- Fall Semester (late August)
- Winter Semester (early January)
- Spring Session (early May)
- Summer Session (late June)

Admission Procedures

You are not required to pay an Application Fee. Completed Admission Applications may be returned to the Admissions Office/Welcome Center via the mail or in person. Please review the following admission categories and follow the procedures outlined.

1. **High School Seniors:** If you plan to enroll the summer or fall after June graduation, you need to complete an Admission Application and give it to your high school counselor or principal. Ask your high school to send your Application, along with your current transcript, to the Admissions Office. Be sure to request that a **final transcript** be sent upon your graduation.

2. **Dual Enrolled Students:** If you plan to enroll in Delta courses and in high school courses during the same semester, you need to submit a special Dual Enrollment Application. This Application, available at your high school, needs to be signed by your parent and high school counselor or principal. Request that your high school send a current copy of your transcript to the Admissions Office.

3. **Adults Out of High School:** Complete an Admission Application and return it to the Admissions Office. You need to request each previously attended high school, education center, and/or college to send a copy of your official transcript to the Admissions Office.

4. **Transfer Students:** Complete an Admission Application and request each college/university attended to send your official transcript to the Admissions Office. If you have allowed adequate time, a credit evaluation will be completed prior to registration. A maximum of 38 credits may be applicable toward a Delta Associate degree. **If your official transcripts are received prior to the last day of telephone registration, you may register by phone.**

5. **Guest Students:** If you are attending another college and wish to take Delta courses on a Guest status, you should complete Part I of the Michigan Uniform Undergraduate Guest Application (available at your current institution or from Delta). Ask the Registrar at your current college to complete Part II and to forward it to Delta's Admissions Office. Be sure to check with your current institution to determine if your Delta courses will satisfy requirements.

6. **Readmitted Students:** If you are a former Delta student who has not taken a course since Winter 1984, you need to be readmitted. Readmission may be accomplished by telephoning the Admissions Office or by completing an Update Form, available from the Admissions Office.

7. **International Students:** If you are not a U.S. citizen or a permanent resident and you are requesting an I-20 form, you need to complete the International Admission Application.

After You Apply

You will receive a prompt response to your mailed Admission Application. Applications submitted in person will be processed immediately. Upon acceptance, you will be issued a student number, an I.D. card, and further information about Steps to Success and/or registration procedures. After being accepted, most new and some returning students are required to participate in pre-enrollment procedures called the **Steps To Success** process. Please see page 17 for further information.

We invite you to call with any questions you may have. Appointments with Admissions representatives are also encouraged in order to clarify pre-enrollment procedures. The Admissions Office phone number is: (517) 686-9093 or from Midland, phone 662-4431, ext. 9093.

Transcripts

If you are a new student in any category except Guest, or if you are a returning student who has attended another college or university, you will need to request immediately that your official transcript be sent to:

Delta College
Admissions Office
University Center, MI 48710

Official transcripts include: high school, college, university, G.E.D., and adult education course work.

Student I.D. Cards

You are required to have an Identification Card which includes your name, student number, signature, and validation sticker. Every new student is eligible for an I.D. Card free of charge. This Card should be validated each semester and used throughout your entire enrollment at Delta. An official sticker for the semester is affixed at the Records and Registration Office or during registration. There will be a \$1 charge for a lost I.D. Card. Lending this Card to anyone or failure to present it when requested by College officials is a violation of College regulations and may result in disciplinary action. Each student is personally liable for all obligations incurred by the use of this Card.

International Student Admission

Delta College is authorized under federal law to admit and enroll non-immigrant alien students. In order to obtain a visa for entry into the United States on an F-1 student visa status, you must present to the U.S. Consul abroad a valid passport, proof of sufficient finances, and a completed I-20 form.

An I-20 form (Certificate of Eligibility) is issued to admitted Delta students after the College has determined that you have met the following conditions:

- 1. Academic Requirements:** You must be 18 years of age or older and have successfully completed a course of study equivalent to high school level. The equivalent of a "B" grade point average is required in all courses; i.e., 14 out of 20, 70% out of 100%. You are required to submit certified copies of your high school leaving certificate, national and international exams, and transcripts which reflect courses and marks earned during the last three years of high school.
- 2. Language Proficiency:** If you are from a country where English is not the official native language, you must be proficient in English to pursue your studies or you must make arrangements to enroll in an English Language Center prior to acceptance. English proficiency means that you speak, write, and read English fluently. Such fluency is necessary to insure your enrollment, proper placement, and success in achieving your educational goals.

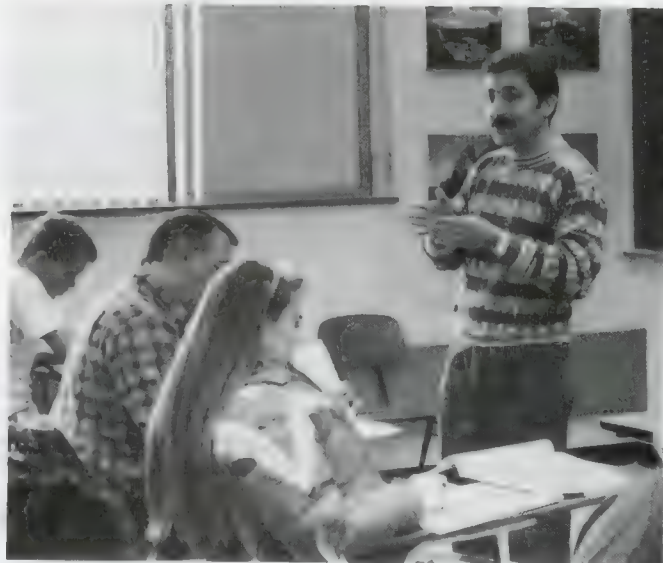
You must furnish Delta College with proof of having received a minimum score of 500 on the TOEFL (Test of English as a Foreign Language) or official transcripts documenting successful completion of an advanced course in English from a licensed English Language Center. An additional test and interview may be required to establish English proficiency before enrollment. Further information about TOEFL can be obtained by writing to: TOEFL, P.O. Box 6151, Princeton, NJ 98541. **International Transfer Students** who are enrolled in a U.S. college may submit proof of successful completion of a transferable English language course with a minimum of "B" average or better.
- 3. Financial Verification:** You are required to submit an up-to-date financial support statement from a sponsor and their bank, which testifies to the sponsor's willingness and capability to support you while you are at Delta. If you are not sponsored by your government or an organization, you must submit a bank statement which testifies to the existence of enough funds in your family's account to provide for attendance. All College tuition is due and payable in full at the time of registration. **Loans, scholarships, and deferred payments are not available for international students.**
- 4. Health Statement:** You are required to submit a health form, which states your physical and mental condition.

- 5. Deadlines:** All documents, such as applications, recommendations, official transcripts, financial statements of support, certificates of English proficiency, and medical reports, must be in the Admissions Office at least **four months** preceding the semester you desire to be admitted.

Semester	Application Deadline	Semester Begins
Fall	May	Last week of August
Winter	September	First week of January
Spring	January	Beginning of May

Important Notes:

- Applications for admission to Delta College will be mailed upon written request. High school records submitted by friends or relatives on your behalf are not accepted. These records must be mailed directly to Delta College by your secondary school, college, or the Ministry of Education in your country.
- All documents must be original or certified copies and must be accompanied by official English translations. Transcripts must be signed by the principal or registrar of each school or college and impressed with a seal or stamp of the school attended. You must not leave your country, language center, or college before you receive official acceptance from Delta College.



"I love my job!"

"The reason that first brought me to Delta was the people. I turned down other colleges because I felt that the people at Delta were the most friendly. Being from Lebanon, people often treat you differently, sometimes hostilely, because you are a foreigner.

At Delta there is a closeness that comes from faculty members having a good relationship with the administration. When the President comes by for a chat to visit and see how you are, that makes you feel good and at home."

Habib Kheil,

Math and Computer Science Instructor,
has taught at Delta for 4 years

Costs

Delta offers quality education at the lowest cost in the tri-county area.
Note: Costs are for the 1992-93 academic year.

Tuition	
In-District	\$48 per credit
Out-District	\$67 per credit
Out-Of-State/International	\$99 per credit
Course Fees	\$3-\$60 per course
Admission Application Fee	\$ 0
Registration Fee	\$ 10
Late Registration Fee	\$ 0
Orientation Fee	\$ 0
Assessment Fee	\$ 0
Student I.D. Card	\$ 0
Replacement I.D. Card	\$ 1
Transcript Fee - One to Three Days	\$ 2
Transcript Fee - Same Day	\$ 5
Library Fee	\$ 0
Tutoring Fee	\$ 0
Parking Fee (except violations)	\$ 0
Student Activities Fee	\$ 0
Graduation Fee	\$ 0
Diploma Fee	\$ 0

Residency Policy and Guidelines

Educational costs at Delta College are shared by students, the taxpayers in the Delta College District, and the State of Michigan. Property taxes paid by residents of the Delta College District supplement student tuition and state aid for in-district status students; therefore, the tuition charged legal residents of the Delta College district is the lowest and students who are classified as out-of-state residents are charged the highest tuition. A student's residency classification is established when admitted to Delta College and may only be changed as detailed under No. 4 below.

1. Residency Classifications: A person will pay course tuition according to one of the following classifications of legal residence:

- In-District Status:** Legal resident* of Bay, Midland, or Saginaw counties. (This is the Delta College District)
- Out-of-District Status:** Legal resident* of Michigan but not of the above three counties.
- Out-of-State Status:** International students and all others not classified within a or b above.

*A legal resident is one whose permanent, primary residence is where he or she intends to return whenever absent from college. A dormitory or apartment rented only for the period of time during college enrollment is not a permanent primary residence.

2. In-District Criteria: For tuition purposes, an in-district student is an American citizen or permanent immigrant **who can provide acceptable proof** of legal residence within Bay, Midland, or Saginaw counties **for at least six consecutive months** immediately preceding the first day of the semester in which the person plans to enroll.

3. Proof of In-District Residence: All students are subject to a check of their residency status at registration. Students furnishing false information will be subject to disciplinary action. The following examples are types of documents which are considered in determining proof of in-district residency:

- A current/valid Michigan driver's license, Michigan Secretary of State I.D. card, or valid Michigan motor vehicle registration in the student's name indicating a permanent address within Bay, Midland, or Saginaw counties.
- A property tax receipt from Bay, Midland, or Saginaw counties.
- A current voter registration card indicating an in-district address.
- Other legal documents such as court-issued guardianship papers.

4. Change of Residency Status: While attending Delta College, students may petition the Dean of Enrollment Services to change their residency classification. Petition forms are available in the Admissions or Records and Registration Offices and must be submitted, with proof of in-district residence (see No. 3 above), at least one week prior to the student's registration date. Students must meet the criteria stated in No. 2 above. Any adjustments made in tuition due to a change in residency status shall not be retroactive.

Note: Guest students from other colleges and international students on a student, working, or visitor visa should not expect to have their residency status changed while attending Delta College, as the definition of legal resident in No. 1 above has not been met.

If you have questions regarding residency, please contact the Admissions Office at (517) 686-9093; from Midland, 662-4431, ext. 9093.

Financial Aid Programs

PROGRAMS	WHO IS ELIGIBLE				HOW MUCH		HOW TO APPLY	
FEDERAL PROGRAMS	A	B	C	D	E		F	G
FEDERAL PELL GRANT	✓	✓	✓		✓	Awards range from \$400-\$2300.	✓	✓
FEDERAL WORK-STUDY	✓	✓	✓		✓	Awards range from \$500-\$1300 per semester. The student earns these funds through part-time employment and receives a paycheck every 2 weeks.	✓	✓
FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT (FSEOG)	✓	✓	✓		✓		✓	✓
FEDERAL STAFFORD LOAN (a) Subsidized (b) Unsubsidized (you pay interest while in school)	✓	✓	✓		✓	Subsidized plus unsubsidized loan maximum is \$2,625/yr. (Freshman) and \$3,500/yr. (Sophomore)	✓	✓
FEDERAL SUPPLEMENTAL LOAN FOR STUDENTS (SLS)	✓	✓	✓		✓	Up to \$4,000 per year for Freshman and Sophomore levels.	✓	✓
FEDERAL PARENT LOAN (PLUS)	✓	✓	✓		✓	Cost of Education - Other financial aid.	✓	✓
VETERANS BENEFITS	✓				✓			✓
STATE OF MICH. PROGRAMS								
MICHIGAN ALTERNATIVE STUDENT LOAN PROGRAM (MI-LOAN)	✓	✓	✓		✓	Maximum is the lesser of your need or your creditworthy amount. Minimum is \$1500.	✓	✓
MICHIGAN COMPETITIVE SCHOLARSHIP PROGRAM	✓	✓	✓	✓	✓	Maximum award is \$1,200 per year.	✓	✓
MICHIGAN INDIAN TUITION WAIVER				✓		Tuition only. Does not pay fees or other charges.	✓	✓
MICHIGAN WORK-STUDY	✓	✓	✓	✓	✓	Awards range from \$500-\$1300 per semester. The student earns these funds through part-time employment and receives a paycheck every two weeks.	✓	✓
MICHIGAN EDUCATIONAL OPPORTUNITY GRANT PROGRAM (MEOG)	✓	✓	✓	✓	✓	Maximum award is \$1000 per year.	✓	✓
MICHIGAN ADULT PART-TIME GRANT	✓	✓	✓	✓	✓	Maximum award is \$600 per year for a period of up to two years.	✓	✓
SINGLE PARENT/HOMEMAKER/SEX EQUITY GRANT	✓	✓	✓		✓	Grant covers tuition, books, required tools, and uniforms.	✓	✓
TUITION INCENTIVE PROGRAM (TIP)	✓			✓		A maximum of 80 credits of tuition & fees for courses completed within 4 years of high school graduation or GED completion.		✓
DELTA COLLEGE PROGRAMS								
BOARD OF TRUSTEES SCHOLARSHIP	✓					Full tuition and fees for 2 consecutive years.		✓
ADULT HIGH SCHOOL SCHOLARSHIP	✓					6 credits of tuition each semester up to a maximum of 30 total credits. Must be used within 4 years of the award.		✓
PRIVATE DONOR SCHOLARSHIP	✓	✓			✓	\$250 per semester is a typical award.	✓	✓
SHORT TERM LOAN	✓	✓				Tuition and fees only. Repayment scheduled during the semester.		✓
<p>A. MUST BE MAINTAINING SATISFACTORY ACADEMIC PROGRESS TOWARD A DEGREE.</p> <p>B. MUST NOT OWE A REFUND OR BE IN DEFAULT ON ANY TITLE IV AID.</p> <p>C. MUST DEMONSTRATE FINANCIAL NEED AS DETERMINED BY THE FEDERAL FORMULA.</p> <p>D. MUST BE A MICHIGAN RESIDENT.</p> <p>E. VARIES.</p> <p>F. COMPLETE AND SUBMIT THE FREE APPLICATION FOR FEDERAL STUDENT AID ACCORDING TO THE DIRECTIONS PROVIDED.</p> <p>G. COMPLETE AND SUBMIT THE DELTA COLLEGE APPLICATION FOR FINANCIAL AID ACCORDING TO THE DIRECTIONS PROVIDED.</p>								

Financial Aid

The Delta College Office of Financial Aid administers a comprehensive program of financial assistance to help you, if you are qualified, with the cost of attending college. Funds are made available by Delta, the State, the federal government, organizations, and individuals to assist you if you demonstrate financial need and/or outstanding scholarship. All application forms required to begin the financial aid process are available from the Delta Admissions and Financial Aid Offices and area high schools. Forms for the next academic year (August through May) are available the preceding January and you should pick them up and follow the application procedures as early as possible. The application process can take from six to 8 weeks and applications filed less than two months prior to registration will usually not be processed in time for registration and may be received too late to be awarded some types of aid.

Application Procedures

1. Complete the Free Application for Federal Student Aid (FAFSA). When you have read the directions carefully and accurately answered every question, sign the form and follow the mailing directions. This will generate a Student Aid Report (SAR), which will be sent directly to you.
2. In addition to No. 1, you must complete a Delta College Financial Aid Application and return it directly to the Delta College Office of Financial Aid, J-100.
3. When you receive your SAR, look it over carefully to make sure it is correct, sign it, and mail it or take it immediately to the Delta College Office of Financial Aid, J-100. The information on this SAR will be used to determine your eligibility for the Federal Pell Grant and, regardless of Pell eligibility, for most other types of aid.

In addition to demonstrating need, to be eligible for aid from federal and State programs you must, in most cases, enroll and attend at least half-time; must maintain satisfactory academic progress as defined by the financial aid programs and Delta College (see Section IV, Academic Policies & Information, Academic Status for Financial Aid Recipients); must be enrolled in a program of study leading to a certificate or degree; must be a U.S. citizen or permanent resident of the U.S.; must not be in default on any student loan; and must not owe a repayment on any federal grant. Due to current regulations, if you do not have a high school diploma or a G.E.D., you must prove your ability to benefit by receiving minimum scores as determined by the U.S. Department of Education on one of the tests approved by that Department. If ability to benefit applies to you, you should contact the Delta College Assessment/Testing Services Office.

When all the above steps have been taken and all eligibility requirements met, you will be considered for all programs administered by the College. The financial assistance offered to you may include one or more of the programs listed on the chart on page 14.

Financial Aid recipients must meet Standards of Academic Progress to continue to receive aid. See page 84 for Standards of Academic Progress for Financial Aid Recipients.

Rights of Financial Aid Applicants

1. You have the right to know what financial aid programs are available.
2. You have the right to know the deadlines for submitting applications for each of the financial aid programs available.
3. You have the right to know how financial aid will be distributed, how decisions on that distribution are made, and the basis for these decisions.
4. You have the right to know how your financial need was determined.
5. You have the right to know what resources (such as parental contribution, other financial aid, your assets, etc.) were considered in the calculation of your need.
6. You have the right to know how much of your financial need as determined by the institution has been met.
7. You have the right to request an explanation of the various programs in your student aid package.
8. You have the right to know the Delta College refund policy.
9. You have the right to know what portion of the financial aid you received must be repaid, the payback procedures, the length of time you have to repay, and when repayment is to begin.
10. You have the right to know how Delta College determines whether you are making satisfactory progress and what happens if you are not.

For an explanation of any of the above rights, please make an appointment with a Financial Aid Officer.

Responsibilities of Financial Aid Applicants

1. You must complete all application forms accurately and submit them on time to the right place.
2. You must provide correct information. In most instances, misreporting information on financial aid application forms is a violation of law and may be considered a criminal offense which could result in indictment under the U.S. Criminal Code.
3. You must return all additional documentation, verification, corrections, and/or new information requested by either the Office of Financial Aid or the agency to which you submitted your application.
4. You are responsible for reading and understanding all forms that you are asked to sign and for keeping copies of them.
5. You must accept responsibility for all agreements that you sign.
6. You must perform the work that is agreed upon in accepting a Work-Study job.

Veterans/Reservists Information

How many times have you heard someone say, "I wish I had taken advantage of the G.I. Bill while I had the chance." Well, now you have the chance, and with a little help from your friends at Delta College, you can put a career in your future.

The Veterans Services Office serves veterans, reservists, and dependents of veterans. We can help you:

- Explore benefits to which you are entitled, including financial aid
- Document your military training for college credit
- Prepare the forms and documentation required by the Department of Veterans Affairs for veterans education benefits
- Assist in upgrading discharge status
- Contact outside agencies for other assistance
- Take advantage of career planning and academic support services

Veterans Education Benefits

Payments are based upon the number of credits in which you are enrolled and the length of the courses. The payment is made directly to you each month by the Department of Veterans Affairs if you maintain satisfactory progress and follow an approved curriculum. **You should be prepared to pay your tuition at the time of registration for academic courses each semester.**

Your Responsibilities

Transfers: You must have your official transcripts sent to the Delta College Admissions Office within two semesters of enrollment for credit evaluation. If you fail to do this, your benefits may be terminated.

Certifying: You must certify each semester at the Veterans Services Office. Bring your schedule showing that your tuition and fees have been paid.

Curriculum Choice: You may receive benefits **only for those courses necessary for graduation.** Any deviations from the curriculum guidelines must be discussed with the Veterans Services Office.

Repeated Courses/Audit Grades: You may not receive VA benefit payments for courses in which you previously earned a satisfactory grade. VA benefit payments are not made if you audit courses. Should you take a course under the pass/no credit grade option, the VA will not pay benefits for an "NC" (no credit) grade.

Failing Courses: You are expected to complete successfully all courses in which you enroll. If a failing grade is assigned, you are expected to provide a written statement to the Delta College Veterans Services Office indicating the last date of attendance for that course. Failure to provide this statement will result in the College reporting the first day of the semester as the last date of attendance for the courses, possibly resulting in an overpayment of benefits.

Satisfactory Progress: You must be making satisfactory progress in your curriculum and toward fulfillment of graduation requirements. You must achieve a "C" (2.00) grade point average for each semester of attendance. Should you achieve less than a "C" (2.00), you will be placed on VA academic probation. The Department of Veterans Affairs will be notified of students placed on probation. If you are on probation status two consecutive semesters, you will not be certified for benefits by the College. You will be eligible for recertification by the College when a "C" (2.00) grade point average is achieved and you are removed from probation status.

Dropping Courses: You are expected to file a drop form at the Records and Registration Office as soon as you stop attending class. You **must also notify the Veterans Services Office immediately** upon dropping or withdrawing from classes in order to modify certified credit hour load. It is to your benefit to report mitigating circumstances that have affected attendance in classes.

Address/Dependent Changes: Notify the Veterans Services Office of any changes in your address or in the number of your dependents.

More About Military Credit

By providing a copy of your DD 214, you may be awarded two physical education (PE) activity credits and one physical education theory (PEH) credit as a result of completing basic training.

Additional college credit for military training/experience may also be granted. If you wish to have additional credit, submit copies of certificates and other supporting documents to the Veterans Services Office. The documents will be prepared and submitted to the Records and Registration Office for official evaluation. Written confirmation of credit awarded will be mailed to you.

An Employer's Opinion

"Our most recent employee from Delta has been a great asset. When we get students out of Delta, they have a lot of good basic training and that saves us a lot of time bringing them along in our operation. Delta has a strong program, and does a good job of preparing people for work in the manufacturing field."

Mr. Tom Vanderkelen, President • Zovamax, Inc. • 349 E. Wackerly • Sanford, MI 48657

Steps to Success Process

As a new Delta student, your goal and ours is your success. We know through experience that if we can help you get off to a good start, you are more likely to be successful in reaching your goals. The Steps to Success Process is designed to help you get that good start. You only participate in Steps to Success once as a new student. After gaining some Delta academic credits, you may register by telephone.

Step 1: Apply for Admission and Financial Aid

You can obtain an Admission Application from area high schools and agencies, and our Admissions Office. Be sure to have official copies of your transcripts (high school/college/G.E.D.) sent to the Admissions Office.

If you are planning to apply for financial aid and you haven't already completed the federal financial aid form, begin the process **now**. Complete the Free Application for Federal Student Aid (FAFSA), which has no application fee. Mail your completed FAFSA in the envelope provided to the federal government's Processing Center. You will receive back a Student Aid Report (SAR) which you must sign and return **immediately** to Delta's Office of Financial Aid. You also need to complete a Delta College Application for Financial Aid.

Step 2: Complete Assessment

Assessment is not a test which you pass or fail. It is a process to help us identify your current skill levels in English, reading and math. Your Assessment scores, as well as other skill indicators, will help you and your Delta counselor select the right beginning courses for you. Sessions are held both on and off-Campus, mornings, afternoons, evenings and occasionally Saturdays. Sessions last two to two and one-half hours.

Step 3: Attend Orientation/Advisement

You will learn more about our programs of study, courses, and services designed for your success. You will meet your counselor, discuss your Assessment results, and receive assistance in making a tentative class schedule. You will receive materials including a catalog and a schedule of academic courses. You will also receive a special registration permit with your date and time to register. Orientation sessions are offered mornings, afternoons, and evenings. Sessions last three and one-half to four hours.

Financial Aid Applicants Note: You should complete Steps 2 and 3 above even if you have **not** received your SAR back from the federal government's Processing Center. Remember to **sign and return your SAR** to Delta's Office of Financial Aid **immediately** upon receiving it.

Step 4: Register and Enroll in Courses

The earlier you complete Steps 1, 2, and 3, the sooner you can register. This means a better selection of courses should be available. At registration, you officially enroll in courses, pay your tuition and fees, validate your I.D. Card, and receive a copy of your class schedule. If you have a permit, you can usually complete registration in an hour. Purchasing of books can be done in our College Bookstore.

Financial Aid Applicants Note: If you have **received your Award Letter** from Delta's Office of Financial Aid, you may charge your tuition, fees, and books **up to the amount** you were awarded.

Step 5: Successful Completion of Courses

Success is defined by you and there are as many definitions of success as there are Delta students. Completing the courses in which you enroll, however, is a major key to success.

A few common success goals of Delta students include:

- Earning an Associate degree or Certificate
- Updating job skills
- Transferring to a four-year college or university
- Obtaining a new or better job
- Learning for personal enjoyment or enrichment
- Learning a new skill

Exemptions for Assessment and Orientation (Steps 2 and 3) will be given only for the following reasons:

- You enrolled at Delta College Fall Semester 1986 or earlier and earned one or more academic credits.
- You are enrolling in five or less credits per semester (three or less credits per Spring/Summer Session) excluding **all** English, business communications, business computation, and math courses.
- You have earned an Associate degree or higher from a regionally accredited college. An official copy of your final transcript or diploma must be sent to the Delta College Admissions Office.
- You are a transfer student who has successfully completed at least 12 credits with a minimum 2.0 GPA, including English composition and math courses equivalent to Delta College courses ENG 111 or OSE 151, and MTH 100 or higher. An official copy of your final college transcript must be sent to the Delta College Admissions Office.
- You are a Guest student from another college. A completed official Guest Application Form is required from your current college or university.
- You plan to enroll solely in an English as a Second Language course. Assessment and Orientation (Steps 2 and 3) must be taken upon completion of your ESL course.

Students who have the necessary documentation for exemption should contact the Delta College Admissions Office to request exemption status.

Registration

Registration at Delta generally takes place three times a year, starting in mid-July for the Fall Semester, starting in mid-November for the Winter Semester, and starting in mid-April for the Spring/Summer Semester.

The Registration Process

- As a new student, you will be given a permit stating the date and time of your registration, which will take place on the Campus. This permit is given to you at the end of Orientation. This means that the earlier you go through Assessment and Orientation, the earlier your registration will be scheduled and the better your choice of courses will be.
- As a returning student, you will be able to register by telephone. You will register according to the number of credits you have completed at Delta. If you miss phone registration, a day is set aside during each registration period on the Campus for returning students to register in alphabetical order.
- If you are designated an official Guest or transfer student by the Admissions Office, you will be allowed to register by telephone on the last day of each phone registration period.

Each semester, a late registration period is held on the Campus for new, returning, Guest, and transfer students who have missed the above registration opportunities.

You are expected to register during the official registration periods. You may register after the completion of the official registration periods but before the midpoint of a course with the written permission of the instructor. You may not register past the midpoint for any course. Effective with the Fall Semester 1992, it is College policy that if you have financial obligations to Delta College, you will not be allowed to register until the obligations have been paid or cleared.

For detailed information regarding phone and Campus registration, you should consult the Schedule of Academic Classes booklet, which is published each semester and available in the Records and Registration Office, the Counseling Center, and the Admissions Office prior to the start of each registration period.

Cancelled Courses: The College reserves the right to cancel any course which does not have a sufficient enrollment of students to warrant its continuation. You should attempt to add another course or apply for a refund either at registration or at the Records and Registration Office. You may also request a refund by phone or letter to the Records and Registration Office.

Course Schedule Changes: You are expected to complete the courses in which you are registered. If a change is necessary, you must file an add/drop form either at registration or at the Records and Registration Office, or send a letter to the Records and Registration Office requesting the drop or withdrawal. The date this form is processed or the postmark on the envelope is the official add/drop date for the course.

Added Courses: In general, you may add courses through the first five instructional days of a semester or first three instructional days of a 7 1/2 week session. Courses added after these days require written permission of the instructor. You may not register past midpoint of any course.

Student-Initiated Drops: For courses officially dropped within the first 11 calendar days of a regular semester or within the first five calendar days of an abbreviated session, no grade will be reported or recorded on the official College transcript. If the course is officially dropped from the 12th calendar day through mid-course, you will receive a grade of "W."

When an official withdrawal/drop is initiated after mid-course, the grade will be a "WE" (withdrawal failing) or "WP" (passing course work at date of withdrawal/drop). All official withdrawal/drops must be completed prior to the last week of a course.

If you do not officially withdraw/drop after mid-course, the instructor will assign an appropriate final letter grade ("A" through "E") in relation to total course requirements achieved.

Instructor-Initiated Drops: An instructor has the option of authorizing a grade of "W" for you if you have missed an excessive number of course hours of instruction or you lack the course prerequisites. This authorization may be initiated through mid-course and reported to the Records and Registration Office.

Upon receipt of an authorization, the Records and Registration Office will notify you in writing of, and the reason for, the drop.

If you wish to appeal an instructor-initiated drop, the contact must be with the course instructor. If necessary, mediation may be requested of the appropriate Division Chair. All appeals must be in writing, signed by you as the person requesting the appeal, and received within one week following notification of the drop.

Withdrawal from College: To completely and officially withdraw (drop all courses), you must complete an add/drop form either at registration or at the Records and Registration Office. Withdrawal may also be requested by mail and the postmark on the envelope will be the official withdrawal date used to determine eligibility for tuition refund and grades.

Course/Credit Load

If you are a full-time student, course load is 12-18 credits in a 15-week semester and 6-9 credits in a 7 1/2-week session. To register for a course load in excess of these limits, you must obtain special permission from a counselor or the Dean of Students before registration. Approval of an excess course load depends upon your previous academic record.

Tuition and Fees

Tuition and fees must be paid in total at designated times (see Schedule of Academic Classes booklet) each semester or session, and may be paid by cash, check, Visa or MasterCard, or charged to approved financial aid. Tuition is assessed by credit based on your residency status. The per-credit tuition rate for each semester is published in the Schedule of Academic Classes booklet and is subject to change without prior notice by action of the Board of Trustees.

Fees are charged for specific courses. Fee information is listed in the Schedule of Academic Classes booklet and subject to change without prior notice.

If you are a resident of the Delta College district, 60 years of age or older, you may register for courses offered by the College and receive a grant reducing the amount of tuition due by 50%. The grant does not apply to fees (registration, contact hour, high cost, course, etc.), books, supplies, trip costs, or other special fees. The College reserves the right to exempt certain courses or programs from grant eligibility. To be eligible for the Senior Citizen Grant Program, you must have a Delta College identification number. The identification number is issued by the Admissions Office after completing a brief application form, which requires proof of age.

A registration fee of \$10 is charged to each academic student once each semester or session. A registration fee of \$5 is charged to each Community Services student once each semester or session. Students registering in both academic and Community Services courses will pay both registration fees once each semester or session.

Textbooks and Equipment: You are required to purchase your own textbooks, supplies, personal attire (i.e., lab coats, clinic shoes, etc. as required by courses), special equipment and tools, and attire and equipment for physical education courses. Most of these items may be purchased at the College Bookstore, which is located in the Commons/Cafeteria area and open during all College registration hours.



"I Decided on Delta!"

"I like the great selection of classes that Delta offers and I was surprised to learn of all the services available at no charge. There's financial aid assistance, academic counseling, placement services, and even tutoring."

Joe Spiegel
Bay City

Refund Policy

Tuition and Special Course Fees*

100% refund: through the 7th calendar day** (including Saturday and Sunday) of the semester.

50% refund: from the 8th through the 11th calendar day** (including Saturday and Sunday) of the semester.

No refund: after the 11th calendar day** (including Saturday and Sunday) of the semester.

For courses that begin after the first full week of the semester, the start date of the course is considered as the first calendar day for refund purposes.

You may drop courses in person or by mail. When dropping by mail, the postmark will be used to determine the percentage of refund.

*Refunds for certain Community Services, Corporate Services and short-term (less than four weeks) academic courses will differ.

**Calendar day is defined as all the days of the week including Saturdays and Sundays. The first calendar day is defined as the first day of the semester.

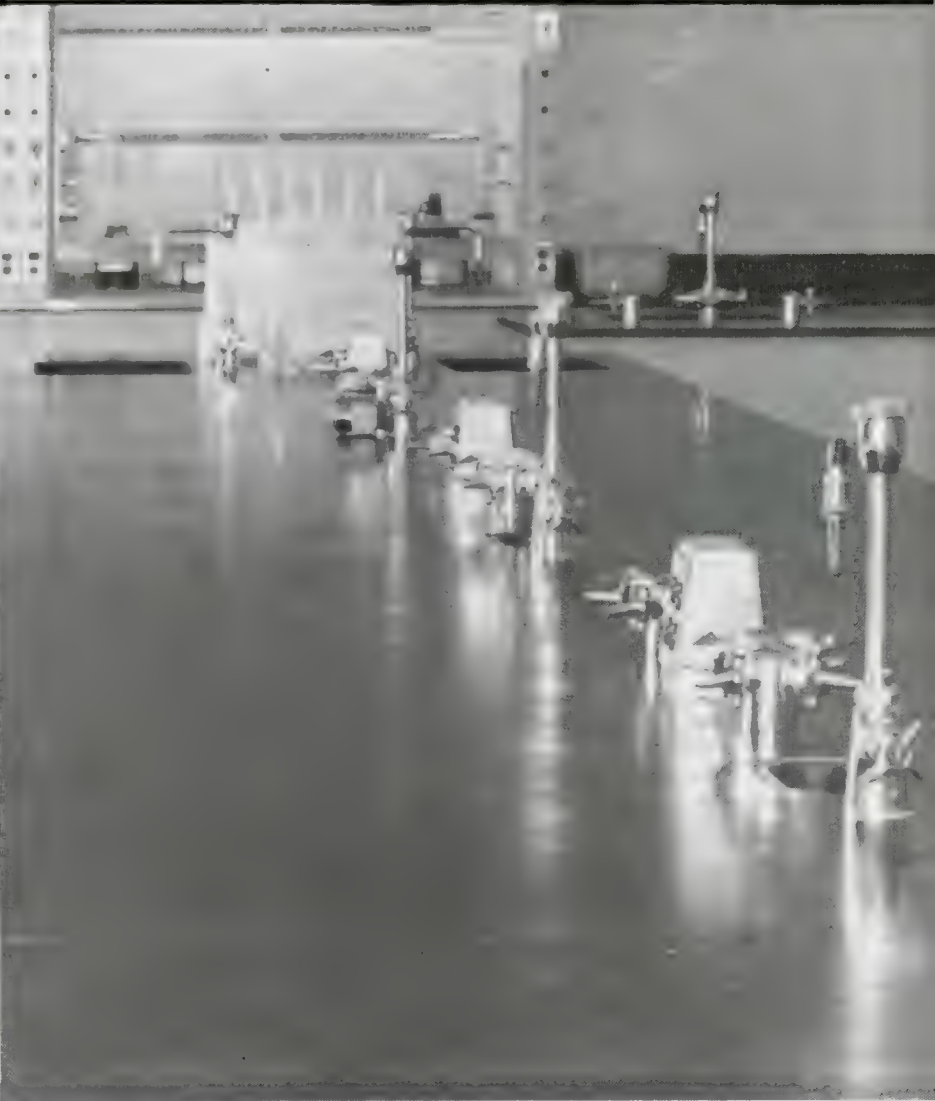
Registration Fee

No refund, unless all courses are cancelled by the College.

Offset

During the 12th through the 25th day from the official start date of the semester or start date listed in the Schedule of Academic Classes booklet, students are permitted to offset equal credits and course fees within the same academic discipline (for example, switching from one ENG course to another ENG course, but not from an ENG course to a MTH course) with the written recommendation of their instructors, through the add/drop procedure. For credits or fees added in excess of credits dropped, additional tuition and fees must be paid. During this period, grades of "W" will not be assigned to courses dropped through the offset process. Offset cannot be done between sessions (for example, dropping an ENG course during the first 7 1/2 week session and adding an ENG course during the second 7 1/2 week Session or dropping a MTH course during the Spring 7 1/2 week Session and adding a MTH course during the Summer 7 1/2 week Session).

Special Refund Consideration: Such consideration by the Vice President of Student Services is available for drops due to medical reasons or death, by submitting a medical statement to the Records and Registration Office.



PROGRAMS OF STUDY

- 1. Transfer Programs**
- 2. Transfer Procedures**
- 3. Academic Occupational Programs**
Certificates and Associate Degrees
- 4. Health Program Procedures**
- 5. Academic Occupational Program Guides**
- 6. Non-Degree Programs and Activities**

Transfer Programs

Code	Program Title	Associate in Arts Degree	Associate in Science Degree
01	Agriculture		X
04	Architecture, Pre	X	
44	Art Education/Art Majors	X	
69	Biology Majors		X
15	Business Administration	X	
45	Business Education	X	
91	Chemical Technology		X
68	Chemistry Majors		X
53	Computer Science	X	X
19	Data Processing	X	
70	Dentistry, Pre		X
A3	Dietetics	X	X
42	Drama/Theater/Speech Majors	X	
46	Elementary/Pre-School Education	X	
55	Engineering, Pre		X
41	Foreign Language Majors	X	
58	Forestry/Natural Resources/Conservation		X
57	Geology/Geography	X	X
38	Home Economics	X	X
50	Industrial Arts Education	X	
61	Journalism/English Majors	X	
62	Law, Pre	X	X
90	Liberal Arts	X	X
73	Medicine/Osteopathy, Pre		X
74	Medical Technology, Pre		X
76	Mortuary Science, Pre		X
52	Music Education/Music Majors	X	
77	Nursing, Pre (BSN)	X	X
80	Occupational Therapy, Pre	X	X
81	Optometry, Pre		X
82	Pharmacy, Pre		X
83	Physical Therapy, Pre		X
84	Psychology	X	
48	Secondary Education	X	X
88	Social Work/Sociology	X	
49	Special Education	X	
86	Veterinary Medicine, Pre		X

Transfer Programs

Delta College is an excellent choice for students planning to earn a Baccalaureate (Bachelor's) degree. While enrolled at Delta in a transfer degree program, you will enjoy these benefits:

- A Campus that is convenient to your home and job.
- Costs that are well below four-year colleges and universities.
- Classes that are small and interactive.
- Faculty who are sincerely concerned about your success and available to provide individual assistance.
- Personal student services and academic advising that will support your career decision-making and educational needs.
- Transfer courses that are recognized by respected colleges and universities throughout the United States.
- Time to establish firm career goals and adjust to college-level studies.
- Opportunity to refine your academic abilities and improve reading, composition, mathematics and study skills.

Be assured that Delta's Associate in Arts and Associate in Science Degree Programs provide you with a solid academic foundation required for success at your chosen four-year college or university.

Basically, Delta College provides the first half (freshman and sophomore years) of most Baccalaureate degree programs. After completing your Associate in Arts or Associate in Science Degree at Delta College, you will in most cases be qualified to transfer to complete the second half (junior and senior years) of the Baccalaureate degree if you have planned carefully, followed the academic advising provided by Delta counselors, and successfully completed the required courses at the minimum grade level stated by the four-year college or university. It is particularly important for you, as a transfer student, to choose your four-year school in your freshman year because the preparation needed at Delta College to enter one transfer college may be different from the preparation and admission requirements at another school. Professional counselors are available at Delta College to assist you in choosing your college or university and in planning your transfer program to fit that school.

Detailed curriculum guidesheets, listing suggested Delta courses and providing career information and admission specifics, are available from the Counseling Center for the transfer programs listed on the chart on page 22. Other transfer programs (not listed by title on the chart) can be individually developed with a Delta counselor. Also, with the addition of some courses, almost any Delta College Occupational Associate in Business Studies Degree or Associate in Applied Science Degree may be utilized in part toward fulfilling a portion of a Baccalaureate degree. Transferability of these occupational programs and courses depends primarily upon the major area of study in the Baccalaureate degree and the senior college of choice.

MACRAO Articulation Agreement with Senior Colleges

The Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) Articulation Agreement was established to improve transfer student articulation between two-year and four-year colleges and universities in Michigan. Delta College is a participant in this MACRAO Agreement with the following four-year institutions:

- | | |
|--|-------------------------------------|
| * Adrian College | * Kalamazoo College |
| * Albion College | * Lake Superior State University |
| * Alma College | * Lawrence Technological University |
| * Aquinas College | * Madonna College |
| * Baker College | * Michigan State University |
| * Calvin College | * Michigan Technological University |
| * Central Michigan University | * Northern Michigan University |
| * Cleary College | * Northwood University |
| * Detroit College of Business | * Oakland University |
| * Eastern Michigan University | * Olivet College |
| * Ferris State University | * Saginaw Valley State University |
| * GMI Engineering & Management Institute | * Siena Heights College |
| * Grand Valley State University | * Spring Arbor College |
| * Hope College | * Western Michigan University |

* Indicates four-year colleges and universities which have attached provisions to their Agreements. Usually these can be satisfied after transferring. These provisions can be obtained from the four-year institution.

This Agreement provides that if you complete either the Associate in Arts Degree or the Associate in Science Degree, or all of the following requirements at Delta College and are accepted as a transfer student by one of the above schools, you will have satisfied the basic general education requirements of that four-year school. The MACRAO Articulation Agreement does not guarantee admission into a particular college or into any particular program at that college. This Agreement applies to basic studies/general education and does not exempt the transferring student from meeting specific requirements for a particular curriculum or program of study; i.e., education, engineering, business, social work. Acceptable courses are specified under the Associate in Arts and Associate in Science Degree Requirements on page 86. The specific requirements of the MACRAO Agreement are:

- | | |
|--|--------------------|
| 1. English Composition | 6 Semester Credits |
| 2. Humanities
(in at least two subject areas) | 8 Semester Credits |
| 3. Social Sciences
(in at least two subject areas) | 8 Semester Credits |
| 4. Natural Sciences
(in at least two subject areas; must include at least one lab course) | 8 Semester Credits |

Transcripts of Associate in Arts or Associate in Science Degree graduates will automatically indicate that MACRAO Agreement requirements were fulfilled. Non-graduates must request the Records and Registration Office to have the MACRAO Agreement put on their official transcripts if requirements were fulfilled.

Transferability of Delta Courses

Based upon information provided to Delta College from the major public Michigan four-year universities and Northwood University, Delta's counseling staff has developed a composite listing that provides specific course equivalency information about how Delta College courses will transfer. The transferability of courses between colleges depends basically upon:

1. The school into which you transfer.
2. Your program of study (curriculum, or more specifically, the major and/or major and minors you are seeking).
3. The grade you receive in the course.
4. Whether or not the transfer college has an equivalent (same) course and if so, the number of credits acceptable for their course.
5. The level of the course (an intermediate algebra course may be acceptable for one curriculum, but not for others that require higher levels of mathematics).

Delta College has liaison relationships with many four-year colleges and universities regarding their transfer requirements and program recommendations; however, if you wish to transfer credits from Delta to another school, it is your responsibility to be aware of that institution's transfer policies and program requirements.

There is a limit to the number of credits you may transfer into a four-year college or university. Generally, this is 62 credits or half the total number of credits required for the Baccalaureate degree.

You can review in the Counseling Center a printed copy of how your Delta courses should be accepted at the college into which you are transferring. Michigan universities for which transfer course information is available are: Central Michigan University, Eastern Michigan University, Ferris State University, Grand Valley State University, Lake Superior State University, Michigan State University, Michigan Technological University, Northern Michigan University, Northwood University, Oakland University, Saginaw Valley State University, University of Michigan-Ann Arbor, University of Michigan-Flint, and Western Michigan University.

You should maintain close contact with your counselor for all possible assistance in registering for the proper courses and maintaining the necessary level of academic performance. While Delta College will make every effort to give proper guidance, you are responsible for your own choices and for developing your own educational plan.

Transfer Procedures

Evaluating Colleges

Transferring from one college to another is very common, but to make it a positive experience, you are encouraged to investigate four-year colleges and universities and their degree requirements; plan ahead; and work closely with your Delta College counselor, especially in selecting the correct courses for your transfer program. Discussed below are several important things to think about as you start evaluating various colleges and universities.

The **academic climate** of the institution should definitely be explored. Compare your background and abilities with those of the present students at that particular college or university. The transfer institution's admissions staff and your Delta counselor can be very helpful in this regard. They are aware of the institution's selection criteria and how well previous Delta graduates have done. You should read carefully each institution's statement on admissions requirements to be certain you can meet them.

The **program offerings** of the various institutions need to be considered in your decision-making process. If you are interested in a specific field of study, you should look first at colleges and universities offering recognized and accredited programs in that area.

There are **non-academic factors** to consider also in making your college or university choice. How large is the student body? Is campus housing available? What is the nature of the community in which the school is located and how far is it from home? Does the institution provide the environment and opportunity for the types of extracurricular activities that you enjoy (e.g., sports, arts, student government)? Where and what types of jobs are their graduates getting and what type of placement services do they provide? Be sure to get answers to questions like these through visits to the campus, by looking at the catalog, or by talking to current students at the school. This information can help you choose an institution that fits your personal interests.

Your investigation should also include a thorough review of the **cost** of the college or university being considered. Usually the basic educational expenses of the institutions for an academic year can be determined from their current catalog. Then add on amounts for such items as personal expenses and room and board to come to a total that will realistically reflect your overall costs.

Last, but certainly not least, are the respective **application procedures for admission and financial aid**. You must submit all required admissions forms correctly and on time if you expect full consideration. You must also submit all financial aid forms correctly and on time. The schools often make their decisions about admission and financial aid soon after the deadline. They must decide on the basis of the material that they have in hand, so it is to your advantage to be prompt and accurate. All Michigan four-year institutions charge an admissions application fee and all have specific deadline dates by which your application and other necessary credentials (required test scores, high school and college transcripts) must be received.

Transfer Degree Requirements

Each institution of higher education has its own requirements for admission, majors, general education, and so on. These requirements are stated in the college's official catalog or bulletin. Usually credits are defined as semester hours but some colleges and universities use the term or quarter hour system. To earn a Bachelor's degree, you will generally be required to fulfill the following:

- **General Education requirements.** Minimum number of credits earned in each of certain broad groups of courses, such as the humanities, the social sciences, the physical or natural sciences, and mathematics. Some institutions refer to these as distribution or core requirements.
- **Level requirements.** Minimum number of credits earned in courses on such levels as introductory, intermediate, and advanced, or in specific numbered levels of courses such as 300 and 400, commonly referred to as junior and senior-level courses.
- **Major or concentration requirements.** Minimum number of credits earned in a subject area of specialization (i.e., English, chemistry, business administration) for the degree. About one-fourth of the total number of credits required for a degree must be in the major or field of concentration.
- **Minor requirements.** Minimum number of credits earned in a second subject of concentration/specialization. Generally the number of credits required is about half to two-thirds required for a major. Not all degrees require you to declare a minor.
- **Residence requirements.** Minimum number of credits earned in attendance at the institution which is granting the degree (as opposed to transfer credits earned at another school).
- **Elective requirements.** Minimum number of credits earned in optional courses that the student chooses.
- **Grade requirements.** Minimum cumulative grade point average of grades earned in all courses taken and often, in all courses taken in the major and/or minor. Some colleges and universities also require a minimum grade in specific courses.
- **Specific subject requirements.** Examples include: freshman-level English composition; two or more courses in physical education; two years of foreign language courses or a minimum level of proficiency in a foreign language as demonstrated on a specified examination; and computer literacy.
- **Credit requirements.** Minimum number of credits, typically 120 to 130 semester credits for a Bachelor's degree.

Transfer Procedures Checklist

It is important that you select as early as possible the institution to which you plan to transfer because schools differ markedly as to curricula offered and their corresponding requirements. If you plan to attend another college or university after the completion of your sophomore year at Delta College, you should:

- Seek academic advising from a Delta counselor so you will enroll in courses that best fit your needs, achievement level, curriculum, and transfer institution requirements.
- Obtain a transfer college/university guidesheet and a curriculum guidesheet from Delta's Counseling Center. Together, these two guidesheets will provide most of the basic information you will need to make the best decisions about both your career choice and transfer school.
- Visit transfer school campuses and make a list of questions in advance to use when you visit their Admissions Offices or other departments. Schedule appointments in advance if you would like a campus tour, want to visit a residence hall, or want to talk with specific personnel.
- Apply for transfer admission well in advance (almost a year) of the anticipated date of transfer. Admission application forms for most Michigan public and some Michigan private senior institutions are available in Delta's Counseling Center.
- Review the official catalog of your transfer college/university of choice. Current Michigan catalogs of many institutions are available for use in the Delta Counseling Center.
- If you served in the military, obtain and send an official copy of your record (DD214 form).
- Confer with transfer institutions admissions personnel who visit Delta annually (some twice a year). Times, dates, and places are posted in the glass case near the Counseling Center entrance and announcements regarding these visits are printed in the weekly Bulletin.
- Request that each college or university you have attended send an official transcript of your courses and grades. Schools usually charge a small fee and you must request these transcripts yourself, in person or in writing, since your signature must be provided. Transcripts will only be acceptable if they are mailed directly by the school and if they have the official seal/signature. Delta transcripts are requested from the Records and Registration Office.
- If required, copies of appropriate test scores (usually ACT or SAT scores) and your high school transcript should be sent. Usually this is only required if you have completed less than 24 to 30 transferable credits. This information is usually detailed in the transfer admission application directions.
- Complete the appropriate financial aid application materials early if you plan to apply for grants, loans, or scholarships. You must also request that each previous institution attended mail a financial aid transcript regardless of whether or not you ever applied for financial aid from that school. These financial aid transcripts are **not** the same as your academic transcript which contains courses and grades. They are requested from financial aid offices and there is no charge.

Academic Occupational Programs

	Curriculum Code	Associate in Business Studies	Associate in Applied Science	Certificate	Page Number
Accounting	11	X			29
Agricultural Enterprise	02	X			29
Architectural Technology	03		X		30
Automotive Service Educational Program (GM)	C5		X		30
Automotive Service Technology	97/99		X	X	31
Broadcasting & Telecommunications:					
Radio	33		X		32
Television	43		X		32
Chemical Technology **	91				33
Child Development	63/64		X	X	34
Clothing Specialist	22/E7	X		X	35
Computer Aided Drafting	T2			X	35
Computer Information Systems:					
Accounting	16	X			36
Computer Application Specialist	17/E2	X		X	36
Programming	18	X			36
Computer Marketing	E9/E8	X		X	37
Computer Numerical Control Technology	T3/T4		X	X	38
Construction Management	E4		X		39
Criminal Justice:					
Corrections	23a		X		40
Law Enforcement	23		X		40
Custom Tailoring and Alterations	E5			X	41
Dental Assisting	72/B6		X	X	42
Dental Hygiene	HH		X		43
Dual Degrees (Business & Allied Health):					
Dental Assisting/General Management	MB6	X	X		44
Dental Hygiene/General Management	MHH	X	X		44
Medical Assisting/General Management	MHM	X	X		44
Nursing/General Management	MHN	X	X		44
Physical Therapist Asst/General Management	MHP	X	X		44
Radiography/General Management	MHX	X	X		44
Respiratory Care/General Management	MHR	X	X		44
Surgical Technology/General Management	MHO	X	X		44
Electronic Engineering Technology	92		X		44
Electronic Service Technology	C9			X	45
Fashion Merchandising	36	X			45
Financial Institutional Management:					
Banking Management	25	X			46
Credit Union Management	D9	X			46
Savings and Loan Management	C8	X			46
Fire Science:					
Fire Fighter Technician	FT		X		47
Fire Investigation/Prevention	FP		X		47
Fire Science Technology	FS		X		47
EMT	FE		X		47
Industrial/Commercial Security & Safety	FI		X		47
Leadership & Training	FL		X		47
Graphic Arts Technology	E6/T5		X	X	48
Industrial Supervision	54		X		49
Information Processing	D8/C1	X		X	49
Interior Design	37	X			50
Legal Assistant	D3/D1	X		X	51
Legal Office Professional	31	X			52
Machine Tool Operations:					
Industrial Supervision	B9		X		53
Machine Tool Operations	B5/A1		X	X	53
Management:					
General Management	20	X			54
Marketing Management	35	X			54
Office Services Management	12	X			54
Retail Management	27	X			54
Small Business Management	21	X			54
Mechanical Design Technology	AO		X		55
Mechanical Engineering Technology	93		X		55
Medical Assisting	32		X		56
Medical Secretary	B7	X			56
Nanny	F1/F2		X	X	57
Nursing (ADN)	HN		X		58
Office Clerk	34			X	59

Academic Occupational Programs

	Curriculum Code	Associate in Business Studies	Associate in Applied Science	Certificate	Page Number
Office Professional:					
Accounting	D6	X			60
Shorthand	D7	X			60
Physical Therapist Assistant	HP		X		61
Practical Nurse (PN)	PN			X	62
Radiography	HX		X		63
Real Estate	E1	X			64
Residential Construction	59/60		X	X	64
Respiratory Care	HR		X		65
Skilled Trades	ST		X		66
Stenography	26			X	66
Surgical Technology	71/HO		X	X	67
Water/Wastewater Treatment Technology	T8		X		68
Welding Technology	C3/C6		X	X	68

** Associate in Science Degree

Many courses in these Programs have prerequisites. See Section VI, Course Descriptions for prerequisite information.

Academic Occupational Programs Certificates and Associate Degrees

Many educational programs offered at Delta College are designed to prepare you for immediate employment in the job market. These occupational curricula provide you with the necessary skills and knowledge required for entry-level positions in career fields. In addition, most programs are diversified sufficiently to create some social and economic awareness. Attending full-time, you can complete most Certificate programs in one year and the majority of Associate degree programs in two years.

Most occupational programs are not specifically designed for transfer purposes to Baccalaureate degree-granting institutions. Transfer of all credits earned should not be expected.

In some programs, credits earned in an occupational program may be transferable into a Baccalaureate degree program at a four-year college or university; however, these programs are not designed specifically to parallel the first two years of university study. You should consult with your Delta counselor and the Admissions Office of the college or university into which you wish to transfer.

Terms Used in this Section

Certificate Option: A Certificate is awarded for the completion of various one-year occupational/technical curricula. Most Certificates prepare you for specific jobs or aspects of a job. Some Certificates are part of an Associate degree program, in which case the credit earned in the Certificate may be used toward the Associate degree.

Applied Associate Degree: The degree is broader in scope than the Certificate and includes a varying number of General Education and support courses.

Suggested Sequence: The order in which you should take your courses is suggested so that they will be of the most benefit to you. The sequence is indicated by blank and black boxes following each course title required for that program. You are responsible for checking course prerequisites prior to enrollment. In most cases the sequential arrangement is not mandatory. If it does not fit your needs, see your counselor or program coordinator.

Electives: These are courses applicable toward a degree or Certificate which may be chosen to meet your individual interests and needs.

Health Program Procedures

Clinical Application and Validation

1. Complete **all** prerequisite courses as specified in this catalog. This means transfer credit, waivers processed, and incomplete course work ("I" grades) completed must be posted on your transcript **prior** to application for validation.
2. Obtain from the Records and Registration Office or the Counseling Center the Validation Application for Health Clinical Programs Form. **You may be validated and eligible for one program only.**
3. Complete the Validation Application Form and **submit the completed Form to the Records and Registration Office.** These Forms may be submitted from mid-term of the semester in which you will complete your prerequisites up to 10 days after the official end of the semester.
4. Records and Registration Office personnel will accept and date your completed Validation Application Form.
5. Validation Application Forms will be validated **only** by Records and Registration Office staff and processed no later than 30 days after the application deadline.
 - a. Qualified students will be assigned a semester and year of validation which will be entered into the student's computer record (e.g., F93 or W94 or S94).
 - b. Nonqualified students must submit another Validation Application Form **after successfully completing** all required prerequisites and other qualifications.
6. The semester and year of validation will be valid for three years. After that time, a new Validation Application must be submitted prior to attempting to register for the clinical sequence. You must have successfully completed all prerequisites/qualifications required at the time the new Application is submitted. Should you not register within the three-year period, it may be necessary to retake some prerequisite courses.

Note: Delta College reserves the right to modify validation and registration procedures for programs with low numbers of validated students at the end of the Winter Semester.

Clinical Registration - First Semester

1. A special telephone registration will be held for first semester clinical courses in the Allied Health and Nursing Programs. Check each semester's Schedule of Academic Classes booklet for the special phone-in registration dates, times, and offerings. Other than Nursing, all health programs normally start in the Fall Semester only.
2. Special phone registration will specify your registration priority according to program **and** semester and year of validation. Once the clinical courses are full, an alternate list of qualified students will be developed to include those students who phoned in when specified.

Note: The alternate list is valid **only** for the semester. The registration alternate list will not be carried over to the next registration.
3. After completion of the special telephone registration, registered students will be required to attend clinical orientation sessions. Alternates may be invited to these sessions. Dates and times for orientations are listed in the Schedule of Academic Classes booklet.
4. Students not making payment by the due date (same as the first due date specified in the Schedule of Academic Classes booklet for all other students participating in phone registration) or voluntarily cancelling will be deleted from courses.
5. Open positions that result from the above deletions or cancellations in first semester clinical courses will be filled by students on the registration alternate list.
6. Students are responsible for completing all clinical courses and requirements in effect on the day the clinical sequence begins.

Note: Individual faculty cannot add to published course capacity by accepting first-time enrolled students as overloads. Repeat students will be admitted in compliance with program re-entry procedures.

An Employer's Opinion

"I feel that Delta is our main source for highly trained people in many areas, including Nursing, Physical Therapy Assistant, and Surgical Technology. We also employ graduates as Paramedics, Health Unit Coordinators, Radiography Technicians and other areas. Our connection with Delta College and its graduates is highly valued."

Ms. Lois Horstman, BSRN • Bay Medical Center, Recruiter, Human Resources
300 Mulholland • Bay City, MI 48708

Academic Occupational Program Guides

ACCOUNTING

Associate in Business Studies Degree

As a graduate of Delta's Accounting associate degree program, you will have the skills to be a junior accountant. Complexity of the work will vary with the size and volume of the employee's activities and the firm's procedures. Most starting jobs will involve tasks such as: keeping records of day-to-day business transactions; making entries in account ledgers; monitoring cash receipts and disbursements; processing appropriate budgetary costing procedures; preparation of balance sheets; and preparing materials needed for financial reports. As you gain experience, you could assume more accounting work which could involve analyzing financial reports and advising management.

	Suggested Sequence	Sem Hrs
General Education Courses		
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 101 Applied Psychology OR		
SPH 112 Fundamentals of Oral Communication OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
--- --- General Electives	■ ■ ■ ■	6
SUBTOTAL		14

Business Courses

* ACC 211 Principles of Accounting I	■ □ □ □	4
* ACC 212 Principles of Accounting II	□ ■ □ □	4
* ACC 214 Microcomputer Accounting Applications	□ ■ □ □	4
* ACC 215 Federal Tax Accounting OR		
ACC 115 Applied Tax - H & R Block	□ □ ■ ■	3/5
* ACC 223 Accounting Practices/Working Capital	□ □ ■ ■	4
* ACC 224 Accounting Practices/Long Term	□ □ ■ ■	4
* ACC 233 Cost Accounting	□ □ ■ ■	3
* CIS 133 Introduction to Computer Information Systems	■ □ □ □	4
ECN 221 Principles of Economics I	□ ■ □ □	4
GB 153 Introduction to Business	■ ■ □ □	3
GB 251 Business Law I	□ ■ ■ ■	3
* OSE 151 Business Communications I	■ □ □ □	3
* OSE 152 Business Communications II	□ ■ □ □	3
OSE 170 Keyboarding I: Keyboard	■ □ □ □	2
SUBTOTAL		48/50

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62/64

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. ACC 211 prerequisite: one year of high school algebra or MTH 107. May be taken concurrently.
- 2. Proficiency examinations are available for OSE 170. Typewriting may be waived and another course substituted.
- 3. If you are planning to transfer to Northwood University you should select ACC 227 (Intermediate Accounting I) and ACC 228 (Intermediate Accounting II). Northwood does not accept ACC 115.
- 4. The above curriculum is intended to prepare you for a career upon graduation from Delta College. If you plan to transfer to a four-year college, you should use a Business Administration curriculum guidesheet and consult a counselor.
- 5. See page 85 for graduation requirements.
- 6. Delta College reserves the right to modify curriculum requirements.

AGRICULTURAL ENTERPRISE

Associate in Business Studies Degree

If you are a farmer, you know that more than almost any other occupation, the American farmer of today is directly affected by national and world events. The governments of the world, their policies and technologies, America's relative economic conditions, world weather conditions, all of these impact the demand and price for your products and ultimate well-being. To compete in national and world markets, there is a need to understand the complex conditions which shape those markets. You must constantly seek improvements in your own operation in order to become more efficient. You need to operate within a narrow range with rising costs of supplies and services on the one hand and global competitive pressures to keep prices for your produce down on the other. This program was developed with the part-time student in mind. It may not be possible to complete the AGR courses within two years.

	Suggested Sequence	Sem Hrs
Business Courses		
CIS 133 Introduction to Computer Information Systems	■ ■ □ □	4
ECN 221 Principles of Economics I	□ ■ □ □	4
GB 110 Business Math	■ □ □ □	3
GB 153 Introduction to Business	■ □ □ □	3
+OSE 151 Business Communications I	■ □ □ □	3
+OSE 152 Business Communications II	□ ■ □ □	3
PE --- Physical Education Activity	■ ■ ■ ■	1
PE --- Physical Education Activity	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
SUBTOTAL		25

Agricultural Business Courses

AGR 150 Computers in Agriculture I	□ ■ ■ □	2
AGR 160 Agribusiness Management OR		
GB 131 Small Business Management I	□ ■ ■ □	3
AGR 205 Agricultural Marketing - Domestic & Global I	□ □ ■ ■	3
AGR 210 Agricultural Finance	□ □ ■ ■	3
AGR 215 Agribusiness Law	□ □ ■ ■	2
SUBTOTAL		13
--- --- Agriculture Electives (see list below)	□ □ ■ ■	15
** --- --- General Electives	□ □ ■ ■	9

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Agriculture Electives may be chosen from the following:

AGR 151 Computers in Agriculture II	□ □ ■ ■	2
AGR 190 Equine Management	□ ■ ■ ■	2
AGR 206 Agricultural Marketing - Domestic & Global II	□ □ ■ ■	3
AGR 218 Agriculture & the Environment	□ ■ ■ ■	2
AGR 220 Fundamentals of Soil Science	□ ■ ■ ■	3
AGR 221 Soil Science	□ ■ ■ ■	3
AGR 232 Beets and Dry Beans	□ □ ■ ■	2
AGR 240 Woody Plant Identification I	□ ■ ■ ■	3
AGR 241 Woody Plant Identification II	□ □ ■ ■	3
AGR 243 Tree Maintenance	□ □ ■ ■	3

NOTATIONS:

- 1.+ If you are planning to transfer to another institution, you may substitute ENG 111 and 112 for OSE 151 and 152.
- 2.** Up to 6 credits may be granted for documented work experience in the production or agribusiness sectors. Up to 3 credits may be granted for documented participation in accredited workshops or seminars conducted by the county extension services.
- 3. If you are planning to transfer to a Baccalaureate degree program, you should consult with the counselor to select appropriate Social Science, Natural Science, and Humanities classes.
- 4. See page 85 for graduation requirements.
- 5. Delta College reserves the right to modify curriculum requirements.

ARCHITECTURAL TECHNOLOGY

Associate in Applied Science Degree

As an Architectural Technician, you may assist licensed architects, construction engineers, urban planners and other design personnel in most phases of the development of a building or site projects. This program has an emphasis on job entry skill development for employment in occupations such as: draftsman for installation and shop drawings; building appraiser for financial institutions or real estate firms; estimator or supervisor for contractors; inspector for government agencies.

		Suggested Sequence	Sem Hrs
General Education Courses			
ART 111	Drawing I	■ □ □ □	3
ART 251	History of Architecture OR		
ART 252	History of American Architecture	□ ■ □ □	2
ENG 111	College Composition I	■ □ □ □	3
ENG 112	College Composition II OR		
ENG 113	Technical Writing	□ ■ □ □	3
MTH ---	Mathematics Elective	■ ■ □ □	3/4
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
---	Approved Electives (see list below)	■ ■ ■ ■	6/7
SUBTOTAL			26

Technology Courses			
+ARC 101	Materials & Methods of Construction	■ □ □ □	3
+ARC 105	Architectural Drafting I	■ □ □ □	4
ARC 106	Architectural Drafting III	□ ■ □ □	3
ARC 107	Architectural Computer & CAD Applications	□ ■ □ □	3
ARC 110	CAD System Orientation	■ □ □ □	2
+ARC 111	Mechanical and Electrical Equipment for Buildings	■ ■ □ □	3
+ARC 204	Estimating Building Construction	□ ■ □ □	3
ARC 205	Architectural Drafting II	□ □ □ □	3
ARC 206	Architectural Drafting IV	□ □ □ □	3
ARC 207	Architectural Presentation Drawings	□ □ ■ ■	3
+ARC 211	Elements of Structural Design	□ □ ■ ■	3
+ARC 221	Site Preparation	□ □ ■ ■	3
SUBTOTAL			36

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Approved Electives:

ARC 140	Intro to Landscape Architecture	GB 131	Small Business Management
ARC 200	Spatial Analysis & Presentation	GB 145	Principles of Sales
ARC 212	Theory & Practice of Structural Steel Design	GB 153	Introduction to Business
		GB 251	Business Law I
ARC 231	Concrete Fundamentals	MTH 111	Applied Algebra
ARC 254	Earth Sheltered Housing Design	MTH 113	Applied Trigonometry
ART 112	Drawing II	MTH 119	Intermediate Algebra
ART 115	Basic Design - Two Dimensional	MTH ---	Any Math Course 120 or higher
ART 116	Basic Design - Three Dimensional	PHO ---	Any Course in Photography
CIS ---	Any Computer Info System Course	RC ---	Any Residential Construction Course that is not co-listed
CPS ---	Any Computer Science Course		

NOTATIONS:

1. Courses ARC 105, 106, 205 and 206 must be taken in sequential order. For information about day and/or evening availability of courses, contact a technical careers counselor.
2. This program prepares you for a technical level career, but some courses are transferable to baccalaureate degree programs in Architecture. If you want to become an architect, you are advised to consult with a counselor about transfer requirements.
3. ART 251 or 252 is offered only in the Winter Semester.
4. Courses marked with " + " are co-listed in Residential Construction and can be taken as an RC course; i.e., ARC 105 = RC 109.
5. See page 85 for graduation requirements.
6. Delta College reserves the right to modify curriculum requirements.

AUTOMOTIVE SERVICE EDUCATIONAL PROGRAM

Associate in Applied Science Degree

The Automotive Service Educational Program (ASEP) is an Associate degree automotive program designed to upgrade your technical competence and professional level as an incoming dealership technician. At Delta College, the entire program requires 103 weeks of training, with 48 weeks spent on the Delta College campus and 55 weeks in a General Motors dealership. Each specialized subject is dealt with in the classroom and laboratory on campus and is immediately followed by related work experience in the dealership. This rotation system continues until the program is completed.

The courses below must be taken in the semesters specified.

		Sem Hrs
First Semester		
ABS 108	Becoming a Master Student	2
AGM 160	Minor Vehicle Service	2
AGM 161	Introduction to Electrical Circuits	2
AGM 162	Engine Service	5
#AGM 170	Dealership Work Experience I	1
PE ---	Physical Activity Elective	1
WELD 308	Fuel Gas Weld Cutting	1
WELD 322	MIG Welding	1
SUBTOTAL		15

Second Semester		
AGM 183	Specialized Electronics Training	4
AGM 187	Electronic Engine Control Drivability	9
#AGM 190	Dealership Work Experience II	1
+ENG 101	Applied English Skills	5
SUBTOTAL		19

Third Semester		
AGM 167	Air Conditioning	2
#AGM 270	Dealership Work Experience III	1
AGM 284	Brakes	4
AGM 286	Drivelines and Manual Transmissions	3
PE ---	Physical Activity Elective	1
PSY 101	Applied Psychology	3
SUBTOTAL		14

Fourth Semester		
AGM 260	Suspensions	5
AGM 265	Applied Body Electrical	2
#AGM 280	Dealership Work Experience IV	1
AGM 287	Customer Service Advising	2
POL 103	Introduction to American Government	3
SUBTOTAL		13

Fifth Semester		
AGM 272	Automatic Transmissions	8
#AGM 288	Dealership Work Experience V	1
SUBTOTAL		9

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 70

NOTATIONS:

1. # These courses are taught at a dealership and are not on campus.
2. +ENG 111 and 112 or 113 may be substituted for ENG 101.
3. Since half of the program is spent at the dealership, you are required to have a sponsoring General Motors dealer. The main responsibility of the dealership is to provide employment during all of the work experience periods.
4. All tuition, fees, housing (if needed), textbook costs and tools are your responsibility.
5. Contact persons: Edward Thayer or Tim Weiss, (517) 754-6558.
6. See page 85 for graduation requirements.
7. Delta College reserves the right to modify curriculum requirements.

AUTOMOTIVE SERVICE TECHNOLOGY

Associate in Applied Science Degree/Certificate

In addition to being trained to enter the automotive services field as a service technician, parts room specialist, or service writer in a specialty area, you will have a broader based education by completing the Associate degree. You may also chose to continue your education by seeking a Baccalaureate degree. To earn an Associate degree, you must complete all Certificate requirements plus at least one additional automotive cluster and all general education courses.

	Suggested Sequence	Sem Hrs
Automotive Service Courses		
Introductory Automotive		
*AUT 100 Introduction to Automotive Service	■ □ □ □	3
*AUT 108 Introduction to Automotive Electronics	■ □ □ □	3
SUBTOTAL		6
1st Automotive Cluster		
AUT 110 Auto Electronics I	□ ■ ■ ■	4
AUT 112 Engine Service	□ ■ ■ ■	6
AUT 114 Brake System Service	□ ■ ■ ■	5
SUBTOTAL		15
2nd Automotive Cluster		
AUT 120 Driveline Service	□ ■ ■ ■	6
AUT 122 Auto Transmission Service	□ ■ ■ ■	8
SUBTOTAL		14
3rd Automotive Cluster		
AUT 210 Auto Electronics II	□ ■ ■ ■	3
AUT 212 Suspension System Service	□ ■ ■ ■	7
AUT 214 Heating/Air Conditioning Service	□ ■ ■ ■	5
SUBTOTAL		15
4th Automotive Cluster		
AUT 220 Electronic Systems Service	□ ■ ■ ■	2
AUT 222 Fuel System Service	□ ■ ■ ■	6
AUT 224 Engine Performance Service	□ ■ ■ ■	6
SUBTOTAL		14
Service Internship		
+AUT 260 Auto Service Skills	□ □ ■ ■	1
General Education Courses		
GB 110 Business Math OR		
MTH --- Algebra I or higher	■ □ □ □	3
ENG 101 Applied English Skills OR		
ENG 111 & 112 College Composition I & II	■ ■ □ □	5/6
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 101 Applied Psychology OR		
PSY 211 General Psychology	■ ■ ■ ■	3/4
SUBTOTAL		16/18

Certificate Requirements		
AUT 100 Introduction to Automotive Service		3
AUT 108 Introduction to Automotive Electronics		3
Two Automotive Clusters		28/30
+AUT 260 Automotive Service Skills		1
TOTAL CREDITS REQUIRED FOR CERTIFICATE		35/37

Minimum Certificate requirements include completion of two clusters. You are, however, encouraged to complete more than two clusters.



"I Decided on Delta!"

"Delta is close to home and affordable, two of the most important qualities I was looking for."

Dave Wissner
Saginaw

Associate Degree Requirements		
AUT 100 Introduction to Automotive Service		3
AUT 108 Introduction to Automotive Electronics		3
Three Automotive Clusters		43/44
General Education Courses		16/18
+AUT 260 Automotive Service Skills1
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		66/69

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course prior to enrolling in any other automotive course.
- 1. + The selection of an Automotive Service Skills internship is done after consulting with the automotive faculty.
- 2. The minimum Associate degree requirements include completion of three clusters. You are encouraged to complete all four automotive clusters.
- 3. See page 85 for graduation requirements.
- 4. Delta College reserves the right to modify curriculum requirements.

BROADCASTING AND TELECOMMUNICATIONS

OPTIONS: TELEVISION RADIO

Associate in Applied Science Degree

Delta College owns and operates public television stations WUCM-TV Channel 19 and WUCX-TV 35, both affiliated with national and regional educational networks. Delta College also operates, in conjunction with Central Michigan University, public radio station WUCX-FM 90.1, affiliated with national public radio program networks. In addition to these broadcast facilities, Delta College operates a student television production studio and an audio production studio for both broadcast and student use. These Delta broadcasting facilities provide you with practical experience under laboratory and real-time operating conditions. You will learn to operate sound, recording, and transmitting equipment; become involved in production activities; be exposed to program producing, directing, and performance; and learn principles and techniques of many specialty areas in the fields of broadcasting and telecommunications. The Broadcasting and Telecommunications program prepares you with the fundamental information and experience necessary for entry-level positions in communication and information industries.

You must complete all required courses and select four courses in one of the career tracks. Discussion regarding the best order for you to schedule the courses with the Broadcasting and Telecommunications counselor is recommended.

	Suggested Sequence	Sem Hrs
General Education Courses		
ECN 221 Principles of Economics I	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	4
ENG 111 College Composition I	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3
ENG 112 College Composition II	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	3
GB 153 Introduction to Business	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3
PE --- Physical Activity Elective	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	1
PE --- Physical Activity Elective	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	1
POL 103 Introduction to American Government	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	3
SPH 112 Fundamentals of Oral Communication	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	3
SUBTOTAL		21

Broadcast and Telecommunications Core Courses

BRT 149 Television Studio Operations I	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	3
BRT 150 Broadcast Writing	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3
BRT 153 Broadcast Performance	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	3
BRT 156 Audio Operations I	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	3
BRT 177 Telecommunications Facilities	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	4
BRT 220 Broadcast History, Law, and Responsibility	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	4
SUBTOTAL		20

General Electives

(May be selected from BRT or Non-BRT courses)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	9
SUBTOTAL		9

Recommended Elective Courses

BRT 130 Electronic Media and Society	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	3
BRT 227 Broadcast Sales	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	3
BRT 260 Assistant Director I	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	2
BRT 261 Assistant Director II	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	2
BRT 270 Current Trends and Issues - Seminar	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	2



"I Decided on Delta!"

"I decided to attend Delta because of all the wonderful things that I heard about the College and because of their friendly and caring staff. No one treats you like a number at Delta. The faculty and staff are always willing to help and I always feel like I'm important."

Joslin Blakes
Saginaw

CHOOSE ONLY ONE TRACK: Television or Radio

Television Track

BRT 154 Television Studio Operations II	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3
BRT 157 Television Field Production	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3
BRT 222 Broadcast Journalism	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	3
BRT 251 Television Producing and Directing OR		
BRT 257 Advanced Television Field Production	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	3
SUBTOTAL		12

Radio Track

BRT 222 Broadcast Journalism	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	3
BRT 230 Broadcast Audio Production	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3
BRT 232 Radio News Production	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	3
BRT 234 Music Programming Workshop OR		
BRT 256 Audio Operations II	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	3
SUBTOTAL		12

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

NOTATIONS:

1. Based on available facilities and equipment, this Program is considered a "limited" enrollment curriculum. Classes will be small and interaction with faculty will provide comprehensive instruction. You are encouraged to see the Broadcasting & Telecommunications Program counselor prior to registration.
2. If you are planning to transfer, you should plan on completing the MACRAO requirements. Please plan on taking the following additional classes: one additional course in Social Science, two additional courses in Humanities, two different courses (at least 8 credits) in Science of which one science must include lab. Please work closely with the Program counselor.
3. See page 85 for graduation requirements.
4. Delta College reserves the right to modify curriculum requirements.

CHEMICAL TECHNOLOGY

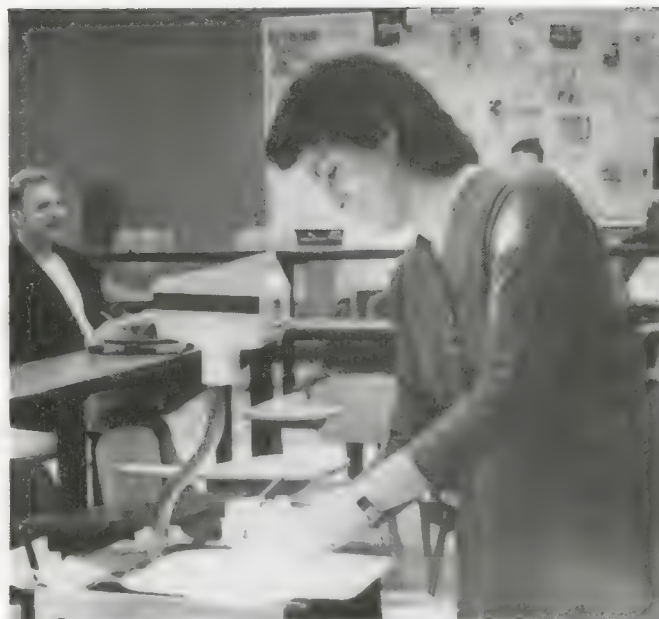
Associate in Science Degree

A degree in Chemical Technology may transfer or could lead to a position with area employers as a Technologist. As a Chemical Technologist, you will operate many kinds of laboratory instruments, be involved with data collection and analysis, and do technical report writing and research projects. This Associate in Science curriculum includes core courses that allow flexibility in choosing a technical focus. Degrees in Water/Wastewater Treatment Technology, Chemistry, Biology, Physics or Engineering may also be pursued using most of the credits from this program.

Courses	Suggested Sequence	Sem Hrs
CHM 111 General Inorganic Chemistry I	■ □ □ □	4
CHM 112 General Inorganic Chemistry II	□ ■ □ □	4
CHM 211 Organic Chemistry I	□ □ □ □	5
CHM 212 Organic Chemistry II	□ □ □ ■	5
CHM 230 Chemical Analysis/Instrumentation	□ □ ■ □	3
CPS 125 Computer Literacy	■ ■ ■ □	3
CT 100 Introduction to Chemical Technology	■ ■ ■ □	1
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II	□ ■ □ □	3
MTH 121 Plane Trigonometry	□ ■ □ □	3
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
PHY 111 General Physics I	■ □ □ □	8/10
PHY 112 General Physics II	□ ■ □ □	
PHY 211 Physics I	□ □ □ ■	
PHY 212 Physics II	□ □ □ ■	
BIO 111 Principles of Biology	■ ■ ■ ■	
POL 103 Introduction to American Government OR		
#POL 111 American Government and Politics	■ ■ ■ ■	3/4
++SCI 250 Research Project in Science	□ □ □ ■	2/6
+--- --- Humanities Electives	■ ■ ■ ■	8
#--- --- Social Science Elective	■ ■ ■ ■	4/5
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		62

NOTATIONS:

1. + Courses must be completed in at least two different subject areas. Consult page 86 of this catalog for a list of approved Humanities courses. Industry recommends enrollment in SPH 112 and/or SPH 114 and PHL 221.
2. # Additional Social Science credits must be earned in an area other than Political Science. See page 86 for a list of approved courses. Industry recommends enrollment in ECN 221 and POL 111 to fulfill the 8 credits required in Social Science.
3. A minimum of 2 credits is required for SCI 250. However, in consultation with faculty, a research project for up to 6 credits may be chosen.
4. If you are planning to transfer to a Baccalaureate degree program, you should consult with a Counselor so that specific transfer college requirements can be completed.
5. See page 85 for graduation requirements.
6. Delta College reserves the right to modify curriculum requirements.



"I love my job!"

"I really enjoy the diversity of my students, who range from high school graduates to older, returning students. It's a challenge to try to reach both types of students simultaneously. I also try to get those different groups together in other parts of the class so that they can learn from one another.

I'm often inspired personally by the students I teach in class, with special disabilities."

Dr. Charissa Urbano,
Associate Professor of Science,
has taught at Delta for 5 years

CHILD DEVELOPMENT

Associate in Applied Science Degree/Certificate

Child care workers work in a variety of settings in the care and guidance of young children. This includes concern for the mental, social, physical, and emotional growth and development of the child. As a child care worker, you should be able to work under supervision and work cooperatively with other personnel. Each child care worker should also gain the respect, confidence, and cooperation of children, maintain discipline and enforce as well as deal with emergency situations calmly. Physically, you must maintain good health and be able to stoop, kneel, crouch, and crawl. Good vision and hearing is necessary as well as being able to lift up to 40 pounds. Applicants for child care worker positions are required to pass a tuberculin test and may have to undergo tests or immunization for other communicable diseases.

As a supplement to the supportive skills learned from courses completed in the Child Development Certificate program, the Associate in Applied Science degree program will also stress leadership skills which are needed in a lead teacher position. In addition to the employment opportunities offered by the certificate program, graduates of this degree program will also be qualified to apply for positions as lead teachers, child care center directors and should be eligible to apply for a license for their own child care agency.

		Suggested Sequence	Sem Hrs
General Education Courses			
BIO 111	Principles of Biology	■ ■ ■ ■	4
ENG 111	College Composition I	■ ■ ■ ■	3
ENG 112	College Composition II	■ ■ ■ ■	3
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government OR		
POL 111	American Government and Politics	■ ■ ■ ■	3/4
+ ---	Humanities Electives	■ ■ ■ ■	8
--- ---	Science Elective (other than Biology)	■ ■ ■ ■	4
> # ---	Social Science Elective (other than Political Science)	■ ■ ■ ■	4/5
> ++ ---	General Elective	■ ■ ■ ■	3
	SUBTOTAL		34/36

Child Development Courses

> CD 111	Introduction to Early Childhood Education	■ ■ ■ ■	2
> CD 112	Early Childhood Program	■ ■ ■ ■	2
> CD 113	Interaction with Young Children	■ ■ ■ ■	3
> CD 114	Intro to Growth & Development of the Young Child	■ ■ ■ ■	3
> CD 115	Growth and Development of the Young Child	■ ■ ■ ■	3
> CD 116	Families in the American Culture	■ ■ ■ ■	3
> CD 117	Practicum for Early Childhood Assistant	■ ■ ■ ■	6
> CD 160	Introductory Practicum in Child Development	■ ■ ■ ■	2
CD 200	Practicum as a Lead Teacher	■ ■ ■ ■	4
	SUBTOTAL		28

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

TOTAL CREDITS REQUIRED FOR CERTIFICATE 30

Suggested Electives

+ Humanities: SPH 114 Interpersonal Communications

Social Science: If you are following the Certificate option, you are only required to take 2 credit hours. PSY 101 Applied Psychology is highly recommended.

++ A suggested course is PEH 168 Advanced First Aid and Emergency Care

> **CERTIFICATE OPTION** - A certificate will be awarded to you when you successfully complete courses preceded by the ">" sign. (30 credits minimum).

NOTATIONS:

1. CD 111; 113; 114; 160 are taken as a block in the Fall Semester only. CD 115; 116; 117 are taken as a block in the Winter Semester only.
2. Child Development Course CD 200 should be taken after all other Child Development courses have been completed. CD 200 is offered Spring and Winter only.
3. The Associate in Arts degree requires a minimum of 8 Social Science credits. CD 116 can be counted as a Social Science course.
4. A Child Development information session is usually held in August. It is highly advisable to attend this session.
5. A maximum of 25 students will be admitted into the Child Development courses in the Fall Semester ONLY. This is on a "first come-first served" basis as determined by the general registration system.
6. The Certificate may be expanded upon to earn an Associate in Applied Science degree in the Child Development Program.
7. You will be required to submit a health appraisal signed by a licensed physician declaring, to the best of the physician's knowledge, that you are physically capable of performing the duties that are required for the safe care of children. Also, you must submit evidence of freedom from communicable tuberculosis.
8. You may be required to sign a document asking whether you have ever been convicted of an offense other than a minor traffic violation and whether you have ever been involved in abuse or neglect of children.
9. If you want to transfer to another college to pursue a Baccalaureate degree in pre-school or elementary education, you are advised to consult with a counselor prior to enrollment in this curriculum. Delta College is not responsible for program requirements and student acceptance by transfer colleges.
10. See page 85 for graduation requirements.
11. Delta College reserves the right to modify curriculum requirements.

"I Decided on Delta!"

"I'm a single parent, juggling kids, school, and a part-time job. Delta's low tuition makes life a little easier."

Vanessa Smith
Saginaw

CLOTHING SPECIALIST

Associate in Business Studies Degree/Certificate

The Fashion-Clothing Specialist degree program is designed for you if you have special talent and flair for creating and constructing apparel and are interested in and like working with fabrics and apparel accessories. Upon completing this curriculum, you will be qualified to seek positions such as: buyers or managers of retail fabric departments; tailors within department and specialty stores; instructors with community school clothing departments; sales personnel, consultants or advisors in the fashion and fabrics industry or with manufacturers of fashion accessories.

		Suggested Sequence	Sem Hrs
General Education Courses			
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
PSY 101	Applied Psychology	■ ■ ■ ■	3
SPH 112	Fundamentals of Oral Communication	■ ■ ■ ■	3
---	General Electives	■ ■ ■ ■	8
SUBTOTAL			19

Business Courses

CED 122	Cooperative Education	□ □ □ ■	3
> FM 110	Apparel Construction and Analysis	■ □ □ □	4
> FM 120	Apparel Tailoring	□ □ □ □	4
> FM 150	History and Dynamics of Fashion	□ □ □ □	3
> FM 155	Textiles	■ □ □ □	3
> FM 170	Fund Theories of Fashion Design & Merchandising ..	□ □ □ □	3
> FM 210	Apparel Pattern Drafting and Design	□ □ ■ □	4
> FM 220	Advanced Apparel Tailoring	□ □ ■ ■	4
FM 240	Fashion Coordination	□ □ ■ ■	3
GB 110	Business Math	■ ■ □ □	3
GB 145	Sales OR		
GB 247	Principles of Retailing	□ ■ ■ □	3
* OSE 151	Business Communications I	■ □ □ □	3
OSE 152	Business Communications II	□ ■ □ □	3
SUBTOTAL			43
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE			62
TOTAL CREDITS REQUIRED FOR CERTIFICATE			30

Suggested Electives

ART 115	Basic Design - 2 Dimensional	■ □ □ □	3
FM 151	Display	□ □ ■ ■	3
FM 250	Seminar in Clothing Fashion	□ □ ■ ■	2
FM 251	Apparel Market Experience	□ □ ■ ■	1
GB 153	Introduction to Business	■ ■ ■ □	3
GB 248	Principles of Buying for Resale	□ □ ■ ■	3
> FM 245	Advanced Textiles	□ ■ ■ ■	3
> ---	Co-Op or General Electives	□ □ ■ ■	2

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by the ">" sign.

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. Electives may be substituted upon demonstration of equivalent skills for course FM 110.
- 2. You are advised to consult with your counselor about elective courses. Course GB 153 Introduction to Business is highly recommended.
- 3. See page 85 for graduation requirements.
- 4. Delta College reserves the right to modify curriculum requirements.

COMPUTER AIDED DRAFTING

Certificate Program

As a Computer Drafter, you will make detailed manual or computer drawings of products and machinery from sketches and specifications conceived by engineers and designers. The finished drawings are used as working plans for engineering and manufacturing purposes. Depending on experience and level of responsibility, duties may vary from preparing basic drawings to modifying the finished design using computer aided design equipment.

In order to enter this area of work, you should be able to: work within precise limits or standards of accuracy, concentrate for long periods of time, visualize 3-dimensional objects from drawings or pictures, see detail in objects or drawings, and recognize slight differences in shapes and shadings. Computer skills are a requirement.

		Suggested Sequence	Sem Hrs
Technical Courses			
CAD 114	Auto CAD Introduction	■ □ □	2
CAD 214	Auto CAD Effective Techniques	□ ■ □	2
CAD 224	Auto CAD Advanced Techniques	□ □ ■	2
DRF 104	Basics of Industrial Drafting OR		
DRF 105	Beginning Industrial Drafting	■ □ □	4/3
DRF 107	Computer-Aided Industrial Drafting	□ ■ □	3
DRF 128	Geometric Tolerancing	□ ■ □	2
DRF 257	Advanced Industrial Drafting	□ □ ■	6
MFG 111	Manufacturing Processes	■ ■ □	3
MS 114	Machine Tools	■ □ □	3
MT 110	Machine Tool Calculations OR		
MTH 111	Applied Algebra	□ ■ □	5/4
TOTAL CREDITS REQUIRED FOR CERTIFICATE			30

NOTATIONS:

1. Students wanting to pursue an Associate Degree should consider Mechanical Design Technology.
2. See page 85 for graduation requirements.
3. Delta College reserves the right to modify curriculum requirements.

"I Decided on Delta!"

"Going to Delta made adjusting to college a lot easier. Classes aren't as large as big universities. I have friends who have classes of 300. The largest I have had was about 35 and most were much smaller. You actually get to ask questions and get to know your instructors."

Delia Rosales
Saginaw

COMPUTER INFORMATION SYSTEMS

OPTIONS:

ACCOUNTING COMPUTER APPLICATION SPECIALIST PROGRAMMING

Associate in Business Studies Degree/Certificate

Computers can process masses of information rapidly and accurately. A programmer prepares detailed instruction (a program) using special computer language to direct the computer through the steps needed to complete an operation. A computer specialist with accounting skills will be able to understand the accounting language and computerize the data to produce special accounting reports and functions. Delta College offers three Computer Information Systems degree options: Programming; Computer Applications Specialist; Accounting. **You must complete all "Basic Core Program" courses plus courses listed in one of the three options.**

Suggested Sequence Sem Hrs

General Education Courses (all options)

PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
---	Humanities OR Social Science elective.		

Those below are highly recommended:

PHL 221	Logic	□ □ ■ ■	
PSY 101	Applied Psychology	■ ■ ■ ■	
PSY 211	General Psychology	■ ■ ■ ■	
SOC 211	Principles of Sociology	■ ■ ■ ■	3/4
SPH 112	Fundamentals of Oral Communication	■ ■ ■ ■	
SPH 114	Interpersonal Communications	■ ■ ■ ■	
SPH 212	Listening	■ ■ ■ ■	
SUBTOTAL			8/9

Business Courses (all options)

> ACC 211	Principles of Accounting I	■ □ □ □	4
*ACC 212	Principles of Accounting II	□ □ □ □	4
> CIS 133	Introduction to Computer Information System	■ □ □ □	4
> CIS 112	Introduction to AS400 and Profs	■ ■ □ □	1
CIS 130	Developing Programming Logic	□ ■ □ □	2
# CIS 139	BASIC Programming I (Required of all students who do NOT have a background in BASIC commands)	■ ■ □ □	(2)
* CIS 140**	BASIC Programming II	■ ■ □ □	1
CIS 135	Information Storage & Retrieval	□ ■ □ □	3
CIS 235	Systems Analysis & Design	□ □ □ ■	3
* CIS 245	COBOL Programming	□ □ □ ■	3
CIS ---	Select from CIS 234, 240, 260 or 265	□ □ □ ■	3
> *OSE 151	Business Communications I	■ □ □ □	3
OSE 152	Business Communications II	□ ■ □ □	3
+ OSE 170	Keyboarding I: Keyboard	■ □ □ □	2
SUBTOTAL			36/38

OPTION -- Accounting

*ACC 223	Accounting Practices/Working Capital	□ □ ■ ■	4
*ACC 224	Accounting Practices/Long Term	□ □ □ ■	4
++MTH 208	Elementary Statistics	□ □ ■ ■	3
---	General Elective	■ ■ ■ ■	3
ACC 214	Microcomputer Accounting Applications (concurrently with ACC 212)	□ ■ □ □	4
SUBTOTAL			18

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

OPTION -- Computer Application Specialist

>CIS 120	Microcomputers in Business	□ ■ ■ □	3
>CIS 115	Computer Fundamentals/Mac	■ □ □ □	1
>CIS 118	IBM PC DOS and Windows OS	■ ■ ■ ■	3
CIS 134	Lotus 1-2-3	□ ■ ■ □	3
>CIS 260	dBase	□ ■ ■ ■	3
(Select electives from below:)			
GB 110	Business Math	■ ■ ■ ■	
GB 131	Small Business Management I	□ ■ □ □	
GB 132	Small Business Management II	□ □ ■ ■	
GB 143	Principles of Advertising	□ ■ ■ ■	6
>GB 153	Introduction to Business	■ ■ ■ ■	
MTH ---	Elective	■ ■ ■ ■	

SUBTOTAL 19

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 63

> **CERTIFICATE OPTION** (Computer Application Specialist only) - A certificate will be awarded to you when you successfully complete these courses.

CERTIFICATE OPTION ONLY

>CIS 116	Introduction to Data Communications	□ □ ■ □	2
>CIS 134	Lotus 1/2/3 OR		
CIS 136	Microsoft Word	□ ■ □ □	3
>OSE 181	Microsoft Word OR		
OSE 182	WordPerfect	□ ■ □ □	3

TOTAL CREDITS REQUIRED FOR CERTIFICATE 36

OPTION -- Programming

CIS 255	Advanced COBOL	□ ■ ■ ■	3
++MTH 208	Elementary Statistics	□ ■ ■ ■	3
CIS ---	Electives	■ ■ ■ ■	6
CIS ---	Electives OR		
---	General Electives	■ ■ ■ ■	6
SUBTOTAL			18

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 63

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. # Take CIS 139 before CIS 140, if you do not have a solid knowledge of BASIC.
- 2. +Proficiency in typing OSE 170 is required for all CIS classes; however, it may be waived by successfully passing a keyboarding test. See counselor.
- 3. ++Dependent upon your background. If you can handle MTH 208 without additional algebra prerequisites, then no other math is required.
- 4. You may substitute ENG 111 and ENG 112 for OSE 151 and 152.
- 5. The above curricula are intended to prepare you for a career upon graduation from Delta College. If you are planning to transfer to a Baccalaureate degree program you should consult with a counselor before enrolling in computer, business, or general education courses so that specific transfer college requirements can be completed.
- 6. See page 85 for graduation requirements.
- 7. Delta College reserves the right to modify curriculum requirements.

COMPUTER MARKETING

Associate in Business Studies Degree/Certificate

This program provides education in the computer business field, with an emphasis on computer marketing. Basic business knowledge and computer skills training are necessary if you are interested in distributing or marketing computers, hardware and software.

		Suggested Sequence	Sem Hrs
General Education Courses			
ECN 221	Principles of Economics I	□ ■ ■ ■	4
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
	SUBTOTAL		9

Business Courses			
*ACC 111	Introductory Accounting OR		
+*ACC 211	Principles of Accounting I	■ ■ □ □	4
CEC 127	Co-Op I: Retail/Computer	□ □ □ ■	3
> CIS 115	Introduction to Macintosh/Business Applications	■ ■ ■ ■	2
> CIS 118	IBM PC DOS and Windows	■ ■ ■ ■	2
> CIS 120	Microcomputers in Business	■ ■ ■ ■	3
> CIS 132	Spreadsheet Fundamentals	■ ■ ■ ■	2
* CIS 133	Introduction to Computer Information Systems	■ ■ □ □	4
> GB 110	Business Math	■ ■ ■ ■	3
> GB 145	Principles of Sales	■ ■ ■ ■	3
> GB 153	Introduction to Business	■ □ □ □	3
GB 243	Principles of Marketing	□ ■ □ □	3
* GB 245	Principles of Management	□ ■ ■ □	3
> GB 251	Business Law I	□ □ ■ ■	3
GB 274	Computer-Aided Decisions	□ □ □ ■	2
> OSE 151	Business Communications I	■ □ □ □	3
* OSE 152	Business Communications II	□ ■ □ □	3
> OSE 187	Beginning Word Perfect	■ ■ □ □	1
> OSE 194	Microsoft Windows	□ ■ ■ ■	1
--- ---	General Electives	■ ■ ■ ■	5
	TOTAL		53

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

TOTAL CREDITS REQUIRED FOR CERTIFICATE 30

>**CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">". (30 Sem. Hrs.).

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. + If planning to transfer to a four-year institution (example: Northwood University 3+1 program), ACC 211 and other prerequisite courses may be required.
- 2. See page 85 for graduation requirements.
- 3. Delta College reserves the right to modify curriculum requirements.



"I love my job!"

"Students at Delta are genuinely here to learn, there is real motivation behind their being in school. The students here are very unpretentious, they have a 'take me or leave me' attitude, which I like. The variety of experiences they bring to class with them makes for a very positive atmosphere."

Skip Renker,
Associate Professor of English, Director of Honors Program,
has taught at Delta for 25 years

COMPUTER NUMERICAL CONTROL TECHNOLOGY

Associate in Applied Science Degree/Certificate

As a CNC Machine Tool Programmer/Operator, you will use computer driven machine tools such as lathes, mills, profilers, lasers, water jet, wire electrical discharge machines, tube benders, punches, and grinders to shape metals to precise dimension. Although some programmer/operators can work with a wide variety of CNC machine tools, most specialize in one or two types. Specific duties may include: studying blueprints, sketches; tool, fixture and machine set up; programming and editing; machine workpieces; inspecting, verifying, and certifying product for dimensional accuracy; light duty repair and maintenance of the CNC machine.

		Suggested Sequence	Sem Hrs
General Education Courses			
ENG 111	College Composition I	■ ■ ■ ■	3
ENG 113	Technical Writing	■ ■ ■ ■	3
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
PSY 101	Applied Psychology OR		
SPH 114	Interpersonal Communications	■ ■ ■ ■	3
	SUBTOTAL		14
Basic Program Requirements			
>CAD 114	Autocad Introduction	■ ■ ■ ■	2
>CIS 114	Introduction to IBM PC OR		
CIS 118	IBM PC DOS	■ ■ ■ ■	1
>CNC 160	Computer Numerical Control Programming I	■ ■ ■ ■	3
>CNC 161	Computer Numerical Control Programming II	■ ■ ■ ■	3
>CNC 201	CNC Tooling and Special Setups	■ ■ ■ ■	2
CNC 284	CNC Practicum	■ ■ ■ ■	4
>DRF 104	Basic Industrial Drafting OR		
DRF 105	Beginning Industrial Drafting	■ ■ ■ ■	3/4
>MS 112	Ferrous Heat Treatment	■ ■ ■ ■	2
>MS 114	Machine Tools I	■ ■ ■ ■	3
>MS 115	Machine Tools II	■ ■ ■ ■	3
>MS 120	Machinist's Handbook	■ ■ ■ ■	2
>MT 110	Machine Tool Calculations	■ ■ ■ ■	5
	SUBTOTAL		33/34

If you are an Associate degree candidate, you must select six courses from the CNC Core. (Four must be from the **On-Line Group** and one must be from the **Off-Line Group.**) 24

> If you are a Certificate candidate, you must select four courses from the CNC Core. (Three must be from the **On-Line Group.**).. 16

On-Line Programming/Operation

Beginning Advanced

CNC 211	CNC 251	Mitsubishi 410 EIA/ISO	■ ■ ■ ■	4
CNC 212	CNC 252	Heidenhain TNC-151	■ ■ ■ ■	4
CNC 213	CNC 253	OSP-5000 LG Control	■ ■ ■ ■	4
CNC 214	CNC 254	Anilam G EIA/ISO Control	■ ■ ■ ■	4
CNC 215	CNC 255	General Numeric 10TF Control	■ ■ ■ ■	4
CNC 216	CNC 256	Mazatrol M-2 Control	■ ■ ■ ■	4
CNC 217	CNC 257	JAPT 3J EIA/ISO Control	■ ■ ■ ■	4
CNC 218	CNC 258	Boston Digital SPC-II EIA/ISO	■ ■ ■ ■	4

Off-Line Programming

Beginning Advanced

CNC 221	CNC 261	ACU. CARV	■ ■ ■ ■	4
CNC 222	CNC 262	E-Z CAM IV	■ ■ ■ ■	4
CNC 223	CNC 263	TM-APT-G	■ ■ ■ ■	4
CNC 224	CNC 264	Anicam	■ ■ ■ ■	4
CNC 225	CNC 265	Mastercam	■ ■ ■ ■	4
CNC 226	CNC 266	CAM M-2	■ ■ ■ ■	4
CNC 267		XL/NC	■ ■ ■ ■	4
CNC 228	CNC 268	Nicam IV	■ ■ ■ ■	4
CNC 229	CNC 269	Expedite 3D	■ ■ ■ ■	4
CNC 230		ACU. CARV	■ ■ ■ ■	4

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 71/72

TOTAL CREDITS REQUIRED FOR CERTIFICATE 45/46

Technical Electives Suggested for Enrichment

CNC 235	MHP Flexible Machining Cell	4
IS 110	Industrial Supervision	3
MT 220	Introduction to Fluid Power	3
ROB 101	Industrial Robotics	1

>**CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">" (45/46 Sem. Hrs.).

NOTATIONS:

1. A waiting list is maintained for CNC core courses. For program details and to be put on the waiting list, see a counselor or instructor.
2. See page 85 for graduation requirements.
3. Delta College reserves the right to modify curriculum requirements.



CONSTRUCTION MANAGEMENT

Associate in Applied Science Degree

The Construction Management curriculum is designed to acquaint you with management/business operations and knowledge of the practices and procedures relating to the construction industry. The construction course will acquaint you with various materials, procedures, types of fabrication, and methods of resolution. Technical problem solving will be stressed.

The business components of this curriculum will teach you basic business structure and practices. Such training is invaluable in the start-up and maintenance of a profitable construction business. Other avenues of employment can be sought in construction supervision, material representation, and material management and control.

		Suggested Sequence	Sem Hrs
General Education Courses			
ENG 113	Technical Writing	■ ■ ■ ■	3
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
SPH 202	Oral Communications for Managers	■ ■ ■ ■	3
SUBTOTAL			11

Business Management Courses			
ACC 111	Introductory Accounting OR		
ACC 211	Principles of Accounting	■ ■ ■ ■	4
CIS 120	MicroComputers in Business OR		
CIS 133	Introduction to Computer Information Systems	■ ■ ■ ■	3/4
*GB 131	Small Business Management I	■ ■ ■ ■	3
GB 153	Introduction to Business	■ ■ ■ ■	3
GB 246	Supervision	■ ■ ■ ■	3
GB 251	Business Law I	■ ■ ■ ■	3
OSE 151	Business Communications I	■ ■ ■ ■	3
SUBTOTAL			22/23

Construction Management Courses			
RC 101	Construction Print Interpretation	■ ■ ■ ■	3
+RC 102	Building Materials	■ ■ ■ ■	3
+RC 105	Building Site Surveying	■ ■ ■ ■	3
RC 106	Concrete & Foundations	■ ■ ■ ■	4
RC 108	Construction Safety	■ ■ ■ ■	2
RC 200	Construction Contracting Rules & Regulations	■ ■ ■ ■	3
+RC 202	Building Materials Estimation	■ ■ ■ ■	3
RC 206	Plumbing, Heating & Electrical Equipment	■ ■ ■ ■	3
RC 211	Elements of Structural Design	■ ■ ■ ■	3
*RC 212	Building System Components	■ ■ ■ ■	3
SUBTOTAL			30

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 63

NOTATIONS:

*A "C" (2.0) minimum grade is required in each asterisked course.

1. +These courses are co-listed with Architecture Technology courses and can be taken as ARC courses; i.e., RC 109 = ARC 105.
2. As a prerequisite to Residential Construction classes, you must have obtained 19 or better on the numerical skills/math portion of the ASSET test or have completed RC 113.
3. If you are in the 3+1 Northwood University program, see your counselor for your course selection at Delta College during your third year.
4. See page 85 for graduation requirements.
5. Delta College reserves the right to modify curriculum requirements.



"I love my job!"

"I find it very enjoyable to be involved with professional teachers and interested students. The faculty are a well informed, diverse mix of people. I also enjoy the age spread of my students, usually anywhere from 18-78. It's interesting to see the chemistry between them."

Terrence Kelly,
Assistant Professor of Architecture and Construction,
has taught at Delta for 7 years

CRIMINAL JUSTICE

OPTIONS: LAW ENFORCEMENT CORRECTIONS

Associate in Applied Science Degree

The Delta College Criminal Justice curriculum is designed to give you specialized knowledge of law enforcement combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet an ever-increasing demand and continuous upgrading of personnel by law enforcement agencies. As a graduate of this program, you would be prepared to seek employment in many non-officer (civilian) jobs such as: patrol and security guards, investigator for several government affiliated agencies or private investigation, and corrections.

	Suggested Sequence	Sem Hrs
General Education Core Courses		
+CPS 125 Computer Literacy	■ ■ ■ ■	3
CJ 110 Introduction to Criminal Justice	■ ■ □ □	3
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II	□ ■ □ □	3
+OSE 170 Keyboarding I: Keyboard	■ ■ □ □	2
PE 101 Physical Fitness OR		
PE 105 Circuit Training	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 211 General Psychology	■ ■ ■ ■	4
SOC 211 Principles of Sociology	■ ■ ■ ■	3
SPH 112 Fundamentals of Oral Communication OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		29

If you are pursuing the Associate in Applied Science degree, you must complete these required CORE Courses plus all courses chosen from one of the options below.

Occupational and Related Courses

Law Enforcement Option

BIO 111 Principles of Biology	■ ■ ■ ■	4
* CJ 111 Police Administration	□ ■ ■ □	3
* CJ 112 Police Operations	□ ■ ■ □	3
* CJ 210 Introduction to Criminal Investigation	□ ■ ■ □	3
# CJ 220 Crime Laboratory Techniques	□ □ ■ ■	3
* CJ 250 Juvenile Offender	□ □ ■ ■	3
* CJ 270 Evidence & Criminal Procedures	□ □ ■ ■	3
* CJ 271 Criminal Law	□ □ ■ ■	3
--- --- General Electives	■ ■ ■ ■	8
SUBTOTAL		33

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Corrections Option

* CJ 230 Introduction to Corrections	□ ■ ■ ■	3
* CJ 232 Client Relations in Corrections	□ □ ■ ■	3
* CJ 233 Client Growth & Development	□ □ ■ ■	3
* CJ 235 Correctional Institutions & Facilities	□ □ ■ ■	3
CJ 236 Community Based Corrections	□ □ ■ ■	3
* CJ 238 Legal Issues in Corrections	□ □ ■ ■	3
PSY 241 Abnormal Psychology OR		
CJ 250 Juvenile Offender	□ □ ■ ■	3
SOC 215 Sociology of Minority Groups	□ □ ■ ■	3
--- --- General Electives	■ ■ ■ ■	9
SUBTOTAL		33

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. + If you can demonstrate proficiency in these areas, you can substitute additional electives.
- 2. # You may substitute a lab science other than Biology for CJ 220. This would be particularly useful for transferring to a 4-year school and helpful in the fulfillment of the MACRAO agreement.
- 3. MACRAO Agreement: It is recommended that if you are planning to transfer to a four-year college or university, you complete the MACRAO agreement requirements. The intent of this agreement is to ensure that students who complete the basic two-year requirements (general education requirements) at a signatory public community college will have satisfied the basic two-year requirements of the signatory four-year college. These basic two-year requirements include ENG 111/112 and 8 credits each in humanities, social science and science. For assistance in program planning to incorporate the MACRAO designation on your transcript, you are advised to contact a Delta College counselor.
- 4. This Criminal Justice Program does not certify you for employment as a police enforcement officer as it does not incorporate the Basic Police Training (BPT) curriculum. For information about BPT contact the Law Enforcement Program Director, Room G-131.
- 5. See page 85 for graduation requirements.
- 6. Delta College reserves the right to modify curriculum requirements.



CUSTOM TAILORING AND ALTERATIONS

Certificate Program

This program will provide education and skill training in the clothing and fashion merchandising business field if you are seeking employment in tailoring occupations, retail fabric, and fashion merchandising. It is designed as a step-out option for employment or the certificate can be used to complete an Associate in Business Studies -- Clothing Specialist Program or Fashion Merchandising Program.

		Suggested Sequence	Sem Hrs
Technical Courses			
FM 110	Apparel Construction and Analysis	■ □	4
FM 120	Apparel Tailoring	■ □	4
FM 150	History and Dynamics of Fashion	■ □	3
FM 155	Textiles	■ □	3
FM 170	Fundamental Theories of Fashion		
	Design & Merchandising	□ ■	3
FM 210	Apparel Pattern Drafting & Design	□ ■	4
FM 220	Advanced Apparel Tailoring	□ ■	3
FM 245	Advanced Textiles	□ ■	4
---	Co-Op or Elective	□ ■	2/3

TOTAL CREDITS REQUIRED FOR CERTIFICATE 30/31

NOTATIONS:

1. An Associate degree in Business Studies can be obtained, following the Clothing Specialist Program or Fashion Merchandising Program.
2. See page 85 for graduation requirements.
3. Delta College reserves the right to modify curriculum requirements.



"I Decided on Delta!"

"I looked around and Delta College was the only college in the area to offer the programs I was interested in."

Patrick Shaw
Saginaw



"I Decided on Delta!"

"Besides the quality education, Delta College allows me to work on Campus. That kind of convenience means a lot to me."

Tina Fleming
Bay City

DENTAL ASSISTING

Associate in Applied Science Degree/Certificate

As a graduate of this program, you will be trained to assist the dentist with treatment procedures at chairside; produce diagnostic aids for interpretation by the dentist; provide oral health instructions for patients; perform laboratory procedures that are required for dental treatment; and perform basic office and record procedures. Upon successfully completing this program, you are eligible to take the certification exam of the American Dental Assistants Association to become a Certified Dental Assistant (CDA) and the Board of Dentistry, Michigan Department of Licensing and Regulation exam to become a Registered Dental Assistant (RDA). This Delta College program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Post-secondary Accreditation and the U.S. Department of Education.

		Suggested Sequence	Sem Hrs
General Education Courses			
ENG 111	College Composition I	■ ■ ■ ■	3
ENG 112	College Composition II	□ ■ ■ ■	3
OR			
OSE 151	Business Communications I	■ ■ ■ ■	(3)
OSE 152	Business Communications II	□ ■ ■ ■	(3)
PE - - -	Physical Activity Elective	■ ■ ■ ■	1
PE - - -	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government OR		
POL 111	American Government and Politics OR		
HIS 103	History of American Government	■ ■ ■ ■	3/4
PSY 101	Applied Psychology OR		
PSY 211	General Psychology	■ ■ ■ ■	3/4
SPH 114	Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL			17/19

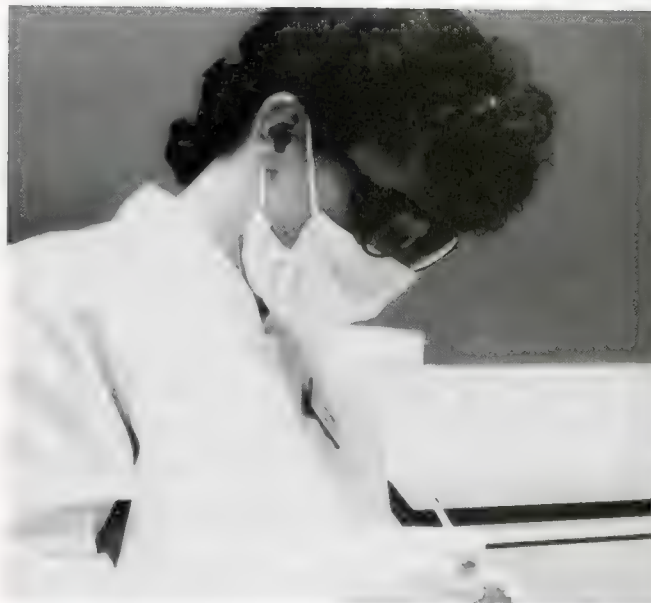
Dental Assisting Courses Required: These courses must be taken in the sequence specified.

> * DA 110	Clinical Dental Assisting I	■ □ □ □	4
> * DA 113	Oral Anatomy & Physiology	■ □ □ □	4
> * BIO 101	Introduction to Anatomy & Physiology	■ □ □ □	4
> * BIO 102	Microbiology & Infection Control	■ □ □ □	2
> * HSC 140	Basic Medical Emergencies	■ □ □ □	2
> * DA 120	Clinical Dental Assisting II	□ □ □ □	5
> * DA 123	Dental Radiology	□ □ □ □	4
> * DA 126	Dental Materials	□ □ □ □	3
> * DA 127	Dental Health & Nutrition	□ □ □ □	2
> * DA 129	Dental Office Management	□ □ □ □	3
> * DA 128	Expanded Dental Functions	□ □ □ □	2
> * DA 130	Dental Assisting Internship	□ □ □ □	7
> * DA 133	Dental Assisting Internship Seminar	□ □ □ □	2
SUBTOTAL			44

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62/63

TOTAL CREDITS REQUIRED FOR CERTIFICATE 44

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">".



NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

- Due to the limited capacity of the college dental facilities and the specific requirements of the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs, enrollment is limited. Each Fall Semester approximately 28 students will be accepted for enrollment in the sequential Dental Assisting courses. You may complete courses BIO 101, BIO 102, and HSC 140 with a minimum C (2.0) grade in each prior to enrollment in the Dental Assisting Sequential courses.
- Dental Assisting courses are offered day hours **only** and **must be taken together** in the sequence shown. You must achieve a minimum C (2.0) grade in each Dental Assisting course and in HSC 140, BIO 101 and BIO 102.
- If you successfully complete (C/2.0 grade in each) both BIO 131 and 132 prior to enrollment in DA courses, you will be able to waive BIO 101.
- Once admitted to the DA course sequence you will be required to have a negative TB test during your first semester and then be required to have a physical exam including a negative hepatitis carrier B test prior to enrolling in DA 120 (second semester of the Dental Assisting Sequential courses).
- In addition to tuition and textbook costs, you must purchase a laboratory coat, uniforms, clinic shoes, safety glasses, and provide transportation to dental office internship assignments and other facilities.
- You must have valid CPR Certification throughout the third semester of the Dental Assisting Sequential courses.
- You must achieve a "C" (2.0) or better grade in each DA course to be eligible to continue enrollment in this program.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

DENTAL HYGIENE

Associate in Applied Science Degree

As a graduate of this program, you will have the knowledge and skills to provide preventive and therapeutic treatments and services prescribed by and under the supervision of the dentist. Specific responsibilities vary, depending on the law of the state where you are employed, but generally include: scaling and root planing; application of topical fluoride and medicines for the prevention of tooth decay; taking impressions and preparing diagnostic models; expose, process and mount dental radiographs; provide instructions for patient self-care and nutritional counseling; and perform laboratory procedures. Upon successfully completing this program, you will be eligible to take the National, Regional and State Board Examinations for Dental Hygiene licensure, since Delta College's program is accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the U.S. Department of Education.

	Suggested Sequence	Sem Hrs
General Education Courses		
*BIO 131 Anatomy and Physiology I	■ ■ ■ ■	4
*BIO 132 Anatomy and Physiology II	■ ■ ■ ■	4
*BIO 203 General Microbiology	■ ■ ■ ■	4
#ENG 111 College Composition I	■ ■ ■ ■	3
#ENG 112 College Composition II	■ ■ ■ ■	3
*HSC 105 Medical Terminology	■ ■ ■ ■	2
*HSC 140 Basic Medical Emergencies	■ ■ ■ ■	2
#PE --- Physical Activity Elective	■ ■ ■ ■	1
#PE --- Physical Activity Elective	■ ■ ■ ■	1
#POL 103 Introduction to American Government OR		
#POL 111 American Government and Politics	■ ■ ■ ■	3/4
#PSY 101 Applied Psychology OR		
#PSY 211 General Psychology	■ ■ ■ ■	3/4
#SOC 211 Principles of Sociology	■ ■ ■ ■	3
#SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		36/38

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application for Health Clinical Programs" and be officially validated. See page 28 of this catalog for the required procedures.

Clinical Course Sequence

First Semester (Fall)

*DH 110	Dental Infection Control	2
*DH 114	Oral Health	3
*DH 115	Clinical Techniques	4
*DH 116	Preventive Nutrition	2
*DH 117	Dental Anatomy	3
*DH 118	Anatomy of the Head and Neck	3
SUBTOTAL		17

Second Semester (Winter)

*DH 120	Periodontics	2
*DH 122	Oral Histology and Embryology	2
*DH 123	Dental Radiography	3
*DH 124	Pharmacology	3
*DH 125	Clinical Dental Hygiene I	6
	SUBTOTAL	16

Third Semester (Spring Session)

*DH 131	Clinic II Seminar	2
*DH 135	Clinical Dental Hygiene II	4
SUBTOTAL		6

Fourth Semester (Fall)

*DH 211	Clinic III Seminar	1
*DH 212	Dental Specialties	1
*DH 213	Oral Pathology	3
*DH 214	Dental Therapeutics and Dev ices	4
*DH 215	Clinical Dental Hygiene III	6
*DH 216	Community DentistryI	2
SUBTOTAL		17

Fifth Semester (Winter)

*DH 221	Clinic IV Seminar	2
*DH 225	Clinical Dental Hygiene IV	7
*DH 226	Expanded Hygiene Duties	2
*DH 227	Community Dentistry II	1
SUBTOTAL		12

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 104

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- # With a GPA of 2.0 over all
- 1. + Prior to enrolling in BIO 131, you must either successfully complete BIO 130 or pass the BIO 130 challenge exam.
- 2. It is highly recommended that you make an appointment with the Allied Health Counselor to go over the prerequisites and discuss your career choice prior to starting your prerequisites.
- 3. A maximum of 18 students will be accepted each Fall Semester for the Dental Hygiene courses.
- 4. Prerequisite qualifications are: a) high school graduate or GED equivalent; b) be admitted to Delta College; c) submit to Delta College complete transcripts from high school and other colleges attended; d) successfully complete prerequisite courses; e) follow the validating procedures as outlined on page 28 of this catalogue once the prerequisites are completed.
- 5. Before you finish your prerequisites you must observe two different Dental Hygienists performing their skills in two different dental offices for a minimum of 8 hours, or you can substitute one dental office by being a patient in Delta College's Dental Hygiene Clinic. These observations must be documented on the Observation Form which can be picked up in the Counseling Office. These forms must then be turned into the Allied Health Counselor prior to enrollment in the professional course sequence.
- 6. Dental Hygiene courses are offered day hours only and must be taken together in the sequence shown. You must achieve a minimum C (2.0) grade in each Dental Hygiene course to be eligible to continue in the program.
- 7. After enrolling in clinical, you must have a complete physical examination, including negative TB and Hepatitis carrier test. It is highly recommended that you talk to your family physician about receiving the Hepatitis Vaccine before you start the professional course sequence of Dental Hygiene.
- 8. You must maintain a current CPR certification throughout your enrollment in the Dental Hygiene courses plus you must maintain your certification to be a licensed Dental Hygienist in the State of Michigan.
- 9. In addition to tuition, fees and textbook costs, you must purchase laboratory coats, clinic shoes, uniform pants, safety glasses, and the Dental Hygiene Instrument Kit (additional costs approximate \$1,000).
- 10. See page 85 for graduation requirements.
- 11. Delta College reserves the right to modify curriculum requirements.

DUAL DEGREES

OPTIONS:

DENTAL ASSISTING/GENERAL MANAGEMENT
DENTAL HYGIENE/GENERAL MANAGEMENT
MEDICAL ASSISTING/GENERAL MANAGEMENT
NURSING/GENERAL MANAGEMENT
PHYSICAL THERAPIST ASSISTANT/GENERAL MANAGEMENT
RADIOGRAPHY/GENERAL MANAGEMENT
RESPIRATORY CARE/GENERAL MANAGEMENT
SURGICAL TECHNOLOGY/GENERAL MANAGEMENT

Associate in Applied Science Degree and Associate in Business Studies Degree

Dual Associate degrees are available in several health curricula with the General Management Program. Generally, the requirements are completed simultaneously; however, the business courses normally will be completed prior to beginning your clinical sequence. Your diploma will list both the Associate in Applied Science Degree and the Associate in Business Studies Degree.

In addition to completing all the courses for an approved health curriculum (see above), you must complete a minimum of 24 additional credits from the courses listed below.

	Sem Hrs
Business Courses	
GB 153 Introduction to Business	3
*GB 245 Principles of Management	3

The other 18 credits are to be selected from the following courses:

#ACC 111	Introductory Accounting	4
#ACC 211	Principles of Accounting I	4
ACC 212	Principles of Accounting II	4
CIS 120	Micro Computers in Business OR	
CIS 133	Introduction to Computer Information Systems	3/4
ECN 221	Principles of Economics I	4
GB 110	Business Math	3
GB 243	Principles of Marketing	3
GB 251	Business Law	3
GB 256	Human Resource Management	3
OSE 151	Business Communications I	3
OSE 152	Business Communications II	3
OSE 170	Keyboarding I: Keyboard	2
	SUBTOTAL	24

CREDITS REQUIRED FOR A DUAL DEGREE VARY
ACCORDING TO THE CHOSEN HEALTH CURRICULA

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

1. # Credit may only be earned in either ACC 111 or 211.
2. See page 85 for graduation requirements.
3. Delta College reserves the right to modify curriculum requirements.

ELECTRONIC ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

As an electronic technician, you will design, build, test, trouble shoot, repair, and modify many types of electronic equipment. You may be an engineering aid in the laboratory, an electronic designer, or a field representative. Rather than emphasizing one or two titles, this program stresses the core of knowledge and skills common to this group of technical occupations. Also this program provides instruction in CAD, circuitry, and computer programming. This curriculum is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. Accreditation by TAC/ABET expands the graduates' market ability nationally as engineering technicians.

	Suggested Sequence	Sem Hrs
General Education Courses		
CPS --- Elective	■ ■ ■ ■	2/3
ENG 111 College Composition I	■ □ □ □	3
ENG 113 Technical Writing	□ ■ □ □	3
MTH 113 Applied Trigonometry OR		
MTH 121 Plane Trigonometry	■ □ □ □	3/4
MTH 151 Pre-Calculus Mathematics	□ ■ □ □	4
MTH 161 Analytic Geometry and Calculus I	□ □ ■ □	4
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
PHY 101 Applied Physics OR		
PHY 111 General Physics I	■ □ □ □	4
PHY 112 General Physics II	□ ■ □ □	4
POL 103 Introduction to American Government	■ ■ ■ ■	3
SPH 112 Fundamentals of Oral Communication OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
	SUBTOTAL	35/37

Basic Program Requirements

CAD 114	Auto CAD Introduction	■ ■ ■ □	2
EET 110	Passive Circuit Analysis	□ ■ □ □	5
EET 120	Digital Circuits	■ □ □ □	3
EET 131	Electrical Measurements	■ □ □ □	2
EET 210	Active Circuits	□ □ ■ □	5
EET 211	Active Circuits II	□ □ □ ■	4
EET 215	Electronic Control and Automation	□ □ □ ■	4
EET 216	Advanced Electronic Circuits	□ □ □ ■	4
EET 224	Computer Electronics I	□ ■ □ ■	3
EET 231	Electronic Fabrication	□ □ □ ■	3
# --- ---	Approved Elective	□ □ ■ ■	2/3
	SUBTOTAL		37/38

Approved Electives

EET 212	Computer Aided Circuit Analysis	□ □ □ ■	2
EET 222	Advanced Logic Circuits	□ ■ ■ ■	3
EET 225	Computer Electronics	□ □ □ ■	3
MT 220	Introduction to Fluid Power	■ ■ ■ ■	3

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 72/75

NOTATIONS:

1. See page 85 for graduation requirements.
2. Delta College reserves the right to modify curriculum requirements.

ELECTRONIC SERVICE TECHNOLOGY

Certificate Program

This program provides you with the background, knowledge and skills in the operation, service, and repair of basic electronic systems. As an electronic service technician, you will test, trouble shoot, repair, and modify many types of electronic equipment. You may be a bench service specialist, an electronic system repairer, or a field service representative. Rather than emphasizing one or two specialties, this program stresses the core of knowledge and skills common to this group of technical occupations. The goals of this program are to have you be able to give proper diagrams and information, trouble shoot, and repair basic electronic systems. This program provides instruction in tool usage, circuitry, computer usage, and documentation of work.

	Suggested Sequence	Sem Hrs
General Education Courses		
EST 101 Electronic Service Industry	■ □ □	4
EST 133 Electronic Service I	■ □ □	4
EST 135 Electronic Service II	■ □ □	4
EST 137 Electronic Service III	■ □ □	4
EST 140 Digital Electronics I	□ ■ □	3
EST 142 Digital Electronics II	□ ■ □	3
EST 146 Basic Microprocessor Systems	□ ■ □	3
EST 150 Electronic Devices I	□ □ ■	3
EST 152 Electronic Devices II	□ □ ■	3
EST 156 Basic Electronic Systems	□ □ ■	3
EST 160 Practical Electronic Servicing	□ □ ■	4
MTH 107 Algebra I	■ □ □	3
TOTAL		41
TOTAL CREDITS REQUIRED FOR CERTIFICATE		41

NOTATIONS:

1. Except for EST 101 and 133, all other EST courses require a "C" grade in prior course to continue or instructor permission.
2. Most courses in this program are sequential, not concurrent. MTH 107 and EST 101 are completed first, then EST 133 and EST 135 follow in order. Courses vary in length from 3 to 6 weeks.
3. See page 85 for graduation requirements.
4. Delta College reserves the right to modify curriculum requirements.

FASHION MERCHANDISING

Associate in Business Studies Degree

This program can lead to careers in fashion buying, fashion merchandising, fashion design, bridal consulting, fashion show coordinating, and fashion display. The merchandisers of fashion perform numerous jobs such as, buying, selling, fashion writing, coordination, fashion illustration, bridal consulting, fashion show coordination, display and promotion work and serving fashion and educational representatives for pattern companies, accessory, and fabric manufacturers.

	Suggested Sequence	Sem Hrs
General Education Courses		
ART 115 Basic Design - 2 Dimensional	■ □ □ □	3
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 101 Applied Psychology OR		
PSY 211 General Psychology	■ ■ ■ ■	3/4
SUBTOTAL		11/12

Basic Program Requirements

*CED 122 Cooperative Education	□ □ □ ■	3
CIS 133 Introduction to Computer Information Systems	■ ■ ■ ■	4
FM 150 History & Dynamics of Fashion	■ □ □ □	3
*FM 151 Display	□ □ □ □	3
*FM 155 Textiles	■ ■ ■ □	3
*FM 170 Fund Theories of Fashion Design & Merchandising ..	□ □ □ □	3
*FM 240 Fashion Coordination	□ □ □ ■	3
GB 110 Business Math	■ ■ ■ ■	3
GB 143 Principles of Advertising	■ ■ ■ ■	3
GB 145 Principles of Sales	■ ■ ■ ■	3
GB 153 Introduction to Business	■ □ □ □	3
GB 247 Principles of Retailing	□ □ □ □	3
*GB 248 Principles of Buying for Resale	□ □ □ □	3
*OSE 151 Business Communications I	■ □ □ □	3
OSE 152 Business Communications II	□ ■ ■ ■	3
--- --- General Elective(s)	■ ■ ■ ■	4/5
SUBTOTAL		50/51

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE

62

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
1. The above curriculum is intended to prepare you for a career upon graduation from Delta College. If you plan to transfer to a four-year college, you should consult a counselor.
 2. See page 85 for graduation requirements.
 3. Delta College reserves the right to modify curriculum requirements.

An Employer's Opinion

"I am very pleased with the services and referrals we get from Delta. They have been the best source of employees for our operation and provide the highest caliber personnel for our job openings."

Ms. Tammy Bernier • Bernier Cast Metal, Inc., Personnel • Saginaw, MI 48601

FINANCIAL INSTITUTIONAL MANAGEMENT

OPTIONS:

BANKING MANAGEMENT CREDIT UNION MANAGEMENT SAVINGS AND LOAN MANAGEMENT

Associate in Business Studies Degree

This program is designed to provide entry opportunities into the financial field as well as provide training for current employees who desire to increase and upgrade their skills and knowledge of finance. Job opportunities are available in banks, savings and loan associations, credit unions, and agencies within areas such as: commercial and installment loan departments; real estate mortgage departments; check processing; bank operations supervision; computer programming; auditing and accounting. These programs are offered in conjunction with A.I.B. (American Institute of Banking) and I.F.E. (Institute of Financial Education, and C.U.N.A. - Credit Union National Association).

Financial Institution Management students must complete the required core courses listed below **plus** the courses listed in one of the areas of specialization.

		Suggested Sequence	Sem Hrs
Core Courses			
CIS 133	Introduction to Computer Information Systems	■ ■ ■ ■	4
ECN 221	Principles of Economics I	□ ■ ■ ■	4
GB 110	Business Math	■ □ □ □	3
GB 153	Introduction to Business	■ □ □ □	3
GB 240	Principles of Marketing	□ ■ ■ ■	3
GB 245	Principles of Management	□ ■ ■ ■	3
OSE 151	Business Communications I	■ □ □ □	3
OSE 152	Business Communications II	□ ■ □ □	3
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
SUBTOTAL			31

Banking Management Option

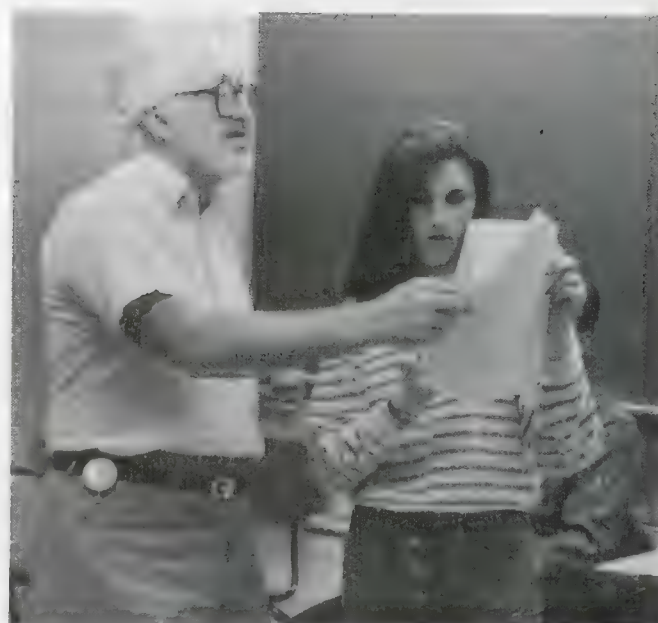
ACC 211	Principles of Accounting I OR		
AIB 103	AIB Accounting I	■ □ □ □	4/3
ACC 212	Principles of Account II OR		
AIB 104	AIB Accounting II	□ ■ □ □	4/3
AIB 160	Principles of Bank Operations	■ ■ □ □	3
AIB 173	Consumer Lending	□ □ ■ ■	3
AIB ---	Elective	■ ■ ■ ■	3
GB 251	Business Law I OR		
AIB 124	AIB Law & Banking	□ □ ■ □	3
GB 252	Business Law II	□ □ □ ■	3
--- ---	General Electives	■ ■ ■ ■	8/10
SUBTOTAL			31

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Credit Union Management Option

*ACC 211	Principles of Accounting I	■ ■ □ □	4
CRM 201	Credit Union Financial Counseling & Member Relations	□ □ ■ ■	3
CRM 212	Credit Union Accounting	□ ■ □ □	3
*CRM 160	Introduction to Credit Unions	■ □ □ □	3
*AIB 173	Consumer Lending	□ ■ ■ □	3
GB 177	Deposit Accounting & Services Management	□ ■ ■ ■	3
*GB 251	Business Law	□ □ ■ ■	3
*GB 256	Personnel Management	□ □ ■ ■	3
--- ---	General Electives	■ ■ ■ ■	6
SUBTOTAL			31

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62



"I love my job!"

"I like the diversity of the student body. Their different backgrounds and abilities make teaching an interesting challenge."

Gerald Ellison,
Assistant Professor of English,
has taught at Delta for 25 years

Savings & Loan Management Option

ACC 211	Principles of Accounting I	■ □ □ □	4
ECN 166	Money & Banking	■ ■ ■ ■	3
GB 170	Introduction to Savings Association Business and Operations	■ □ □ □	3
GB 172	Residential Mortgage Lending	□ ■ ■ ■	2
GB 251	Business Law I	□ □ □ □	3
PSY 101	Applied Psychology	■ ■ ■ ■	3
# ---	Electives (at least one course must be selected from below)	■ ■ ■ ■	13
SUBTOTAL			31

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Recommended Electives for Savings and Loan

GB 174	Real Estate for Financial Institutions	■ ■ ■ ■
GB 177	Deposit Account & Services	■ ■ ■ ■
GB 183	Real Estate Law	■ ■ ■ ■

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. This curriculum is intended to prepare you for a career upon graduation from Delta College. If you plan to transfer to a four-year college, you should consult a counselor.
- 2. See page 85 for graduation requirements.
- 3. Delta College reserves the right to modify curriculum requirements.

FIRE SCIENCE TECHNOLOGY

OPTIONS:

FIRE FIGHTER TECHNICIAN
FIRE INVESTIGATION/PREVENTION
FIRE SCIENCE TECHNOLOGY
EMT
INDUSTRIAL/COMMERCIAL SECURITY AND SAFETY
LEADERSHIP AND TRAINING

Associate in Applied Science Degree

This Associate degree program in Fire Science Technology is designed to provide vocational and technical skills which will provide you with educational credentials for employment or promotional opportunities. If you are seeking a career in the fire service, you will find new positions limited and placement highly competitive.

Nature of Work: Fire Science technology is an applied science that embraces a wide range of knowledge leading to the control or prevention of fire and the handling of hazardous materials. This program is designed for the entering college student, the professional fire fighter, and persons employed in a broad range of occupations related to fire science and safety. Technical competency prepares you for managerial and leadership positions in municipal, industrial, or business entities.

Fire Fighter Technician: As a Fire Fighter, you will respond to emergency calls, control and extinguish fires, mitigate hazards, protect life and property, and maintain equipment. You will be responsible for proper use and maintenance of equipment, educating the public, responding to emergencies, and developing pre-incident plans to protect the community against loss of life and property.

Fire Investigation/Prevention: As a Fire Inspector, you will be involved in education, enforcement, engineering, and fire investigation. Your work will involve fire safety education, inspecting and enforcing fire codes, plan review, testing of fire protection systems, maintaining exitways, inspecting flammable liquid storage, determining cause and origin of fires, and preserving evidence, and testifying in arson cases.

EMT: As an Emergency Medical Technician you will provide basic life support skills in the field such as patient evaluation, respiratory and cardiac care, psychological care, auto extrication, trauma care, and transportation.

Industrial/Commercial Security and Safety: You will perform inspections of industrial and commercial buildings to detect fire and safety hazards, and make recommendations for improvements for loss prevention management. Your duties will include examining interiors and exteriors of industrial settings for violation of federal, state, and local requirements.

Leadership & Training: You will provide the command function for the Fire Service. Responsibilities include strategy and tactics, size-up and attack, developing action plan, safety, and overall management of emergency scenes.

	Suggested Sequence	Sem Hrs
General Education Core Courses		
CPS 125 Computer Literacy OR		
CIS 133 Introduction to Computer Information Systems	■ ■ ■ ■	3/4
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II OR		
ENG 113 Technical Writing	□ □ □ □	3
#PE --- Physical Activity Elective	■ ■ ■ ■	1
#PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 101 Applied Psychology OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		17/18

Fire Science Core Courses		
FST 101 Introduction to Fire Science	■ □ □ □	3
FST 102 Fireground Tactics	■ ■ ■ ■	3
FST 103 Building Materials to Construction	■ ■ ■ ■	3
FST 104 Arson Awareness OR		
FST 230 Fire Safety Education	■ ■ ■ ■	3
FST 105 Hazardous Materials	■ ■ ■ ■	3
FST 107 Fire Protection Systems I	■ ■ ■ ■	3
SUBTOTAL		18

I. Fire Fighter Technician Option

FST 111 Fire Fighter IA	■ □ □ □	4
FST 112 Fire Fighter IB	□ ■ □ □	4
FST 211 Fire Fighter IIC	□ □ □ □	4
FST 212 Fire Fighter IID	□ □ □ □	4
+ --- --- General Electives	■ ■ ■ ■	11
SUBTOTAL		27
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		62

II. Fire Investigation/Prevention Option

CJ 210 Introduction to Criminal Investigation	□ ■ ■ ■	3
FST 104 Arson Awareness	□ ■ ■ ■	3
FST 224 Fire Investigations	□ ■ ■ ■	3
FST 230 Fire Safety Education	□ ■ ■ ■	3
FST 231 Fire Service Law	□ ■ ■ ■	3
+ --- --- General Electives	■ ■ ■ ■	15
SUBTOTAL		30
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		62

III. Fire Science Technology Option

@ --- --- Approved Electives	■ ■ ■ ■	16
--- --- General Electives	■ ■ ■ ■	10/11
SUBTOTAL		26/27
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		62

@ Approved Fire Science Technology Electives can be combination of courses from any of the other 5 options.

IV. EMT Option

*EMT 101 Basic EMT I	■ ■ ■ ■	6
*EMT 102 Basic EMT Field Experience	■ ■ ■ ■	1
*EMT 108 Rescue & Extrication	■ ■ ■ ■	1
+ --- --- General Electives	■ ■ ■ ■	19
SUBTOTAL		27
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		62

V. Industrial/Commercial Security and Safety Option

CHM 101 General Chemistry I OR		
CHM 111 General and Inorganic Chemistry I	■ ■ □ □	4/5
CJ 182 Introduction to Security	■ ■ ■ ■	3
FST 205 Hazardous Materials II	□ □ ■ ■	3
FST 207 Fire Protection Systems II	□ □ ■ ■	3
IS 118 Industrial Safety	■ ■ ■ ■	2
+ --- --- General Electives	■ ■ ■ ■	11/12
SUBTOTAL		27
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		62

VI. Leadership & Training Option

IS 110 Industrial Supervision OR		
FST 201 Supervision & Leadership	■ ■ ■ ■	3
FST 202 Company Management	□ ■ ■ ■	3
FST 203 Fireground Management	□ ■ ■ ■	3
FST 204 Fire Science Instructional Methodology	□ ■ ■ ■	3
FST 230 Fire Safety Education	□ ■ ■ ■	3
+ --- --- General Electives	■ ■ ■ ■	12/15
SUBTOTAL		27/30
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		62

+ Recommended Electives

MTH 100 Pre-Algebra Math		2
CJ 187 Current Issues in Security		3
IS 120 Supervisor/Employee Relations		3
PHO 101 Photography I		3

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

- # Recommended are PE 101, 150, 151, 152 or 153.
- Before being admitted to the Delta College Basic EMT sequence, you must provide evidence of completion of a recent physical exam. This exam confirms that you are free of communicable diseases, and capable of performing duties necessary for safe patient care. The minimum requirement to be licensed as a Michigan EMT is successful completion of the Delta College courses EMT 101, 102, and 108 with "C" minimum grades and the passing of the State of Michigan Basic EMT exam. Other students who are enrolled in the Fire Science program and hold a current EMT license may receive credit by presenting a copy to the Technical Department Chairperson.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

GRAPHIC ARTS TECHNOLOGY

Associate in Applied Science Degree/Certificate

Lithography or photo offset printing is the dominate method of printing. Today lithographers photograph or scan the material to be printed and make a printing plate from the film which, when inked, is transferred to a rubber-covered cylinder to transfer the ink onto the paper. As a Lithographer, you will be responsible for a variety of printing activities ranging from photographing copy and pictures to making the final printing plates. In a small shop, you may handle every step in the printing process, but lithographic workers usually tend to specialize in jobs such as camera operator, artist, stripper, platemaker, or computer graphics.

As a camera operator, you begin the process of making the plates by photographing and developing negative of the material to be printed.

As an artist, you will retouch the negatives to sharpen or reshape images. You will use chemicals, dyes and special tools and must know the characteristics of all types of paper.

As a film assembly person (stripper), you will cut the film to arrange and assemble the negatives onto layout flats which are used to make the plates. As a graphic designer, you may use computers in this process also.

As a platemaker, you will cover the surface of a flat piece of metal with a coating of photosensitive chemical or use pre-coated plates, put the assembled flats on top of the plate and expose to light. This produces the printing plate.



"I Decided on Delta!"

"Delta's got great, friendly instructors. It helps to be surrounded by friends when you are going through the transition between high school and college."

T. Deon Gray
Saginaw

General Education Courses

	Suggested Sequence	Sem Hrs
CHM 101 General Chemistry I OR		
CHM 111 General and Inorganic Chemistry I	■ ■ ■ ■	4/5
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II OR		
ENG 113 Technical Writing	□ ■ ■ □	3
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
>SPH 112 Fundamentals of Oral Communication OR		
>SPH 114 Interpersonal Communications	■ ■ ■ ■	3
# --- --- General Elective	■ ■ ■ ■	3
SUBTOTAL		21/22

Technology Courses

>DRF 101 Drafting for Graphic Arts	■ □ □ □	1
>GAT 100 Introduction to Graphic Arts	■ □ □ □	4
>GAT 110 Pre-Production Graphic/Film Assembly I	□ ■ □ □	5
>GAT 112 Pre-Production Graphic/Film Assembly II	□ □ ■ □	6
>GAT 222 Desktop Publishing for GAT I	□ □ ■ □	3
>GAT 224 Desktop Publishing for GAT II	□ □ ■ ■	3
GAT 226 Desktop Publishing for GAT III	□ □ ■ ■	3
GAT 230 Computer Graphics for GAT	□ ■ □ □	2
GAT 240 Offset Press Fundamentals I	□ □ ■ □	3
GAT 242 Offset Press Fundamentals II	□ □ ■ ■	3
># --- --- General Electives	■ ■ ■ ■	5
# --- -- General Elective	■ ■ ■ ■	3
SUBTOTAL		41

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62/63

TOTAL CREDITS REQUIRED FOR CERTIFICATE 30

Suggested Electives

ARC 110 CAD System	2
ART 111 Drawing I	3
ART 115 Basic Design 2D	3
ART 221 Graphic Design	3
ART 281 Screen Printing	3
MTH 119 Intermediate Algebra (or higher math)	4
OSE 170 Keyboarding I: Keyboard	2
OSE 197 DPT Layout	2
PHO 102 Photography I	3
PHO 201 Photography II	3

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">".

NOTATIONS:

1. GAT 110 and 112 offered at Dow High School in Midland.
2. Most of the GAT classes are offered in the evening.
3. See page 85 for graduation requirements.
4. Delta College reserves the right to modify curriculum requirements.

INDUSTRIAL SUPERVISION

Associate in Applied Science Degree

As a supervisor, you will basically be responsible for the output of other workers and for maintaining work schedules, production, safety, and employee records pertaining to your industrial plant department. Employers generally will choose people for supervisory positions who have experience in their industry, job related skills, and leadership qualities. Therefore, most supervisors rise through the ranks and completion of this program alone will not ensure employment as a supervisor in an industrial plant. The main emphasis of this program is to provide you, as a currently employed supervisor or aspiring supervisor, with knowledge of supervisory responsibilities pertaining to management skills.

	Suggested Sequence	Sem Hrs
General Education Courses		
ENG 111 College Composition I	■ □ □ □	3
ENG 113 Technical Writing	□ ■ □ □	3
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
SPH 112 Fundamentals of Oral Communication OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		14

Business and Technology Courses

IS 110 Industrial Supervision	■ ■ □ □	3
IS 118 Industrial Safety	■ ■ ■ □	2
IS 120 Supervisor-Employee Relations	■ ■ □ □	3
MFG 111 Manufacturing Processes	□ □ ■ ■	3
QA 240 Quality and Productivity Management	□ □ ■ ■	3
QA 241 Six Tools of SPC	□ □ ■ ■	1
#- - - Computer Electives	■ ■ ■ ■	3
- - - General Electives	■ ■ ■ ■	12
#- - - Supervisor Skills Electives (Approved Courses only) ..	■ ■ ■ ■	6
#- - - Technical Electives	■ ■ ■ ■	12
SUBTOTAL		48

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Suggested Technical Electives: Courses with codes MFG, ROB, IS, MT, MS, DRF, CAD or CNC.

Suggested Computer Electives

CIS 133 Introduction to Computer Information Systems	4
CIS 134 Lotus 1-2-3	3
CIS 265 Introduction to Computer Programming	3
CPS 125 Computer Literacy	3

Approved Supervisor Skills Electives

ECN 221 Principles of Economics I	4
GB 153 Introduction to Business	3
GB 231 Industrial Relations	3
PSY 101 Applied Psychology	3
SOC 211 Principles of Sociology	3

NOTATIONS:

- Up to 10 credits may be granted for work experience as an Industrial Supervisor. Contact the Testing/Assessment Office at Delta.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

INFORMATION PROCESSING

Associate in Business Studies Degree/Certificate

As an information processor, you will use microcomputers or terminals to enter, store, and reproduce business documents and help facilitate the flow of related office work. Information may be submitted as typed copy, handwritten copy, dictaphone recording, or on disk. You will work with word processing, spreadsheets, databases, and graphics to assist in completion of the final document. Information processors are employed by many industries and businesses. Manufacturing companies employ information processors in a variety of settings. You might be employed in courts, probation departments, police departments, colleges, law offices, insurance companies, hospitals, utility companies, banks, air lines, etc.

	Suggested Sequence	Sem Hrs
General Education Courses		
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
>PSY 101 Applied Psychology OR		
>SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		8

Business Courses

CIS 118 IBM PC DOS	■ ■ □ □	2
> CIS 132 Spreadsheet Fundamentals	□ ■ □ □	2
> CIS 260 dBase	□ ■ □ □	3
GB 110 Business Math	■ ■ □ □	3
GB 153 Introduction to Business	■ ■ □ □	3
> OSE 145 Integrated Office Systems	■ ■ □ □	4
>*OSE 151 Business Communications I	■ ■ □ □	3
*OSE 152 Business Communications II	□ ■ ■ ■	3
> OSE 155 Editing	■ ■ ■ □	2
> OSE 157 Filing	■ ■ ■ ■	2
> OSE 172 Keyboarding III: Intermediate	■ ■ □ □	3
> OSE 175 Machine Calculation	■ ■ ■ ■	1
>*OSE 181 Microsoft Word OR		
>*OSE 185 Wordstar OR		
>*OSE 186 Multimate	□ ■ ■ □	3
OSE 196 Desktop Publishing-Windows	□ ■ ■ □	2
OSE 197 Desktop Page Layout and Design	□ □ □ ■	2
* OSE 245 Advanced Software Applications	□ □ □ □	2
* OSE 268 General Office Practice	□ □ □ □	3
>*OSE 273 Keyboarding IV: Advanced	□ ■ ■ ■	3
>*OSE 274 Machine Transcription	□ □ ■ ■	2
>#- - - General Electives	■ ■ ■ ■	1/6
SUBTOTAL		54

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

TOTAL CREDITS REQUIRED FOR CERTIFICATE 32

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">".

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- # Only 1 semester hour of elective credit is required for Certificate option; however, 6 semester hours of elective credit is required for Associate degree.
- 1. Credit by exam available for OSE 151, OSE 157, OSE 175, OSE 155, OSE 184, and OSE 274.
- 2. Electives may be substituted upon demonstration of equivalent skills for OSE 172.
- 3. A knowledge of general math is required for OSE 175 - Machine Calculation.
- 4. Students not scoring at least 70% on math placement test in GB 110 may be required to take MTH 100.
- 5. OSE 101 WordPerfect Basics is a prerequisite for OSE 172 and 273 unless you have completed OSE 171.
- 6. OSE 145 recommended before CIS 132 and CIS 260.
- 7. See page 85 for graduation requirements.
- 8. Delta College reserves the right to modify curriculum requirements.

INTERIOR DESIGN

Associate in Business Studies Degree

As an interior designer, you will help make our living, working and playing areas more attractive and useful. You may help clients select furniture, draperies, other fabrics, floor coverings, and accessories, as well as estimate what services or furnishings will cost. The main purpose of designers in retail stores is to help sell the store's merchandise. When you begin interior designing, you will usually serve a training period, either with design firms, in department stores, or in furniture stores. You may act as a receptionist, as a shopper with the task of matching materials or finding accessories, or as a stockroom assistant, assistant decorator, or a junior designer.

		Suggested Sequence	Sem Hrs
General Education Courses			
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
PSY 101	Applied Psychology OR		
PSY 211	General Psychology	■ ■ ■ ■	3/4
SUBTOTAL			8/9

Business Courses			
* ARC 105	Architectural Drafting I	■ □ □ □	4
* CED 122	Cooperative Education/ID	□ □ □ ■	3
* FM 155	Textiles	■ □ □ □	3
* GB 110	Business Math	■ □ □ □	3
GB 145	Sales	□ □ □ □	3
GB 153	Introduction to Business	■ □ □ □	3
GB 247	Principles of Retailing	□ □ □ ■	3
* ID 100	Introduction to Interior Design	■ □ □ □	3
* ID 170	Design Elements	□ ■ □ □	4
* ID 200	Space Analysis & Presentation	□ ■ □ □	3
* ID 210	Furniture	□ ■ □ □	3
* ID 230	Applied Interior Design	□ □ □ ■	3
ID 240	Contract Design/Commercial I	□ □ ■ □	2
ID 241	Contract Design/Commercial II	□ □ ■ □	2
ID 245	Design Trends	□ □ □ ■	2
OSE 151	Business Communications I	□ ■ □ □	3
OSE 152	Business Communications II	□ □ ■ □	3
--- ---	General Elective(s)	■ ■ ■ ■	4
SUBTOTAL			54

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62/63

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. This Program is not intended to transfer to a four-year college or university. It is designed for students who want immediate employment after graduation from Delta.
- 2. ID 250 Seminar in Interior Design (2 credits) and ID 251 Merchandise Mart Experience (1 credit) are optional but encouraged.
- 3. See page 85 for graduation requirements.
- 4. Delta College reserves the right to modify curriculum requirements.



"I love my job!"

"I really respect my students, especially the non-traditional ones. These students are working to put themselves through school, have children, and sometimes have many years between high school and college.

I respect the life experiences that they bring to class with them. I get some of the greatest enjoyment out of my older student's perspective."

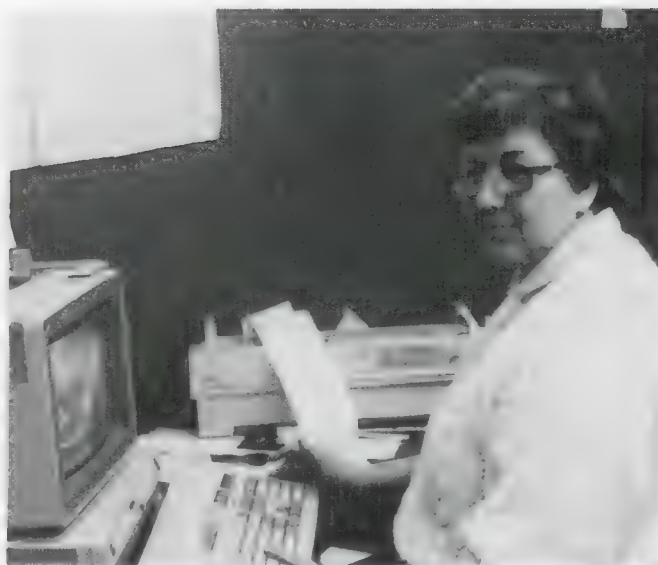
Larry Levy,
Professor of English,
has taught at Delta for 16 years

LEGAL ASSISTANT

Associate in Business Studies Degree/Certificate

Not all legal work requires a law degree. In recent years, lawyers have increasingly used legal assistants, also called "Paralegals" or "Legal Technicians," to provide legal services to more persons at less cost. As a legal assistant you will work directly under the supervision of a lawyer. While the lawyer assumes responsibility for the legal assistant's work, you will often be allowed to perform all the functions of a lawyer other than accepting clients, setting fees, giving legal advice, or presenting a case in court. You will generally do background work for the lawyer and help a lawyer prepare litigation for trial by investigating the facts of the case to make sure that all relevant information is uncovered.

You may conduct research to identify the appropriate laws, judicial decisions, legal articles, and other material that will be used to determine whether or not the client has a good case. After analyzing all the information, you may prepare a written report that is used by the attorney to decide how the case should be handled. If the attorney decides to file a lawsuit on behalf of the client, you may prepare legal arguments, draft pleadings to be filed with the court, obtain affidavits, and assist the attorney during the trial. You may also keep files of all documents and correspondence important to the case. A growing number of legal assistants are using computers in their work. Computer software packages are increasingly used to search legal literature stored in the computer and identify legal texts relevant to a specific subject.



		Suggested Sequence	Sem Hrs
General Education Courses			
>ENG 111	College Composition I	■ □ □ □	3
ENG 112	College Composition II	□ ■ □ □	3
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government OR		
POL 111	American Government and Politics	■ ■ ■ ■	3/4
PSY 101	Applied Psychology OR		
PSY 211	General Psychology	■ ■ ■ ■	3/4
SPH 112	Fundamentals of Oral Communication OR		
SPH 114	Interpersonal Communications	■ ■ ■ ■	3
--- ---	General Elective	■ ■ ■ ■	3
SUBTOTAL			20/22

Business Courses

CIS 133	Introduction to Computer Information Systems OR		
OSE 145	Integrated Office Systems	■ □ □ □	4
> LAS 110	Legal Assistant Roles and Responsibilities	■ □ □ □	1
>* LAS 115	Principles of Substantive Law	■ □ □ □	3
> LAS 120	Legal Research & Writing I	□ ■ □ □	3
>* LAS 125	Civil Litigation I	□ ■ □ □	2
>* LAS 130	Legal Research & Writing II	□ ■ □ □	3
>* LAS 135	Civil Litigation II	□ □ ■ □	2
>* LAS 140	Survey of Computers	□ ■ ■ □	2
>* LAS 150	Real Estate Law	□ ■ ■ □	2
>* LAS 210	Estate & Trust Administration	□ □ ■ □	2
>* LAS 240	Domestic Relations	□ □ ■ ■	2
>* LAS 245	Personal Injury	□ □ ■ ■	3
>* LAS 250	Corporate Law	□ □ ■ ■	2
OSE 151	Business Communications I	■ ■ □ □	3
# ---	Business Electives	■ ■ ■ ■	5
#>*-	LAS Elective	■ ■ ■ ■	3/4
SUBTOTAL			42/43

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62/65

TOTAL CREDITS REQUIRED FOR CERTIFICATE 32/34

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">".

"I Decided on Delta!"

"There's only one choice. Delta is the best school in the area. Hands down."

Carolyn R. Smith
Bay City

Approved Electives

ACC 211	Principles of Accounting I	4
CIS 132	Spreadsheet Fundamentals	2
CIS 260	dBase	3
GB 153	Introduction to Business	3
GB 251	Business Law I	3
LAS 215	Financial Records in the Law Office	2
LAS 220	Environmental Law	2
LAS 230	Administrative Law	2
LAS 253	Survey of Bankruptcy Law	2
LAS 255	Law Office Management	2
OSE 155	Proofreading	2
OSE 172	Keyboarding II: Intermediate	2
OSE 187	WordPerfect Beginning OR	
OSE 188	WordPerfect Intermediate	1/2

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

1. See page 85 for graduation requirements.

2. Delta College reserves the right to modify curriculum requirements.

LEGAL OFFICE PROFESSIONAL

Associate in Business Studies Degree

The efficiency of any organization depends in large part upon its professional office staff, which is the center of communications within a firm. Specific job duties differ among organizations and vary among their departments. As an office professional today, you must have a strong foundation in developing and transmitting communications, spreadsheets, data bases, as well as possessing good human relation skills. Opportunities for office employment may be found in such areas as banking, government, education, entertainment, insurance, retailing and wholesaling, manufacturing, real estate, travel, transportation.

This program provides basic office skills in addition to specialized legal vocabulary, legal machine transcription, and legal office practices.

	Suggested Sequence	Sem Hrs
General Education Courses		
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 101 Applied Psychology OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		8

Business Courses		
GB 153 Introduction to Business	■ ■ □ □	3
GB 251 Business Law I	■ ■ □ □	3
GB 252 Business Law II	□ ■ ■ ■	3
LAS 140 Survey of Computers in the Law Office	□ ■ □ □	2
OSE 145 Integrated Office Systems	■ ■ □ □	4
*OSE 151 Business Communications I	■ ■ □ □	3
*OSE 152 Business Communications II	□ ■ □ □	3
OSE 157 Filing	■ ■ ■ ■	3
OSE 161 Alphabetic Shorthand I	■ ■ □ □	4
*OSE 162 Alphabetic Shorthand II	□ □ ■ ■	3
OSE 172 Keyboarding III: Intermediate	■ ■ □ □	3
OSE 175 Machine Calculation	■ ■ ■ ■	1
OSE 177 Proofreading	■ ■ ■ ■	2
*OSE 267 Legal Office Practices	□ □ □ ■	4
*OSE 273 Keyboarding IV: Advanced	□ □ ■ ■	3
*OSE 275 Machine Transcription/Legal	□ □ ■ ■	2
--- --- General Electives	■ ■ ■ ■	10
SUBTOTAL		55

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 63

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

1. Credit by exam is available for OSE 151, OSE 157, OSE 175 and OSE 177.
2. Electives may be substituted upon demonstration of equivalent skills for OSE 172.
3. Typewritten assignments are required for OSE 151 Business Communications I.
4. OSE 101 WordPerfect Basics is a prerequisite for OSE 172 and 273 unless you have completed OSE 171.
5. See page 85 for graduation requirements.
6. Delta College reserves the right to modify curriculum requirements.



"I love my job!"

"I've taught in a lot of different places and I think that Delta students are the most exciting to work with. The intimate class size allows me to create an atmosphere that makes learning exciting.

Delta's outstanding faculty maintain a high level of intellectual stimulation for the students and each other."

Paul C. Hill,
Associate Professor of Music and
Director of the Delta College Choir,
has taught at Delta for 4 years

MACHINE TOOL OPERATIONS

OPTIONS:

INDUSTRIAL SUPERVISION MACHINE TOOL OPERATIONS

Associate in Applied Science Degree/Certificate

In addition to the skills you will gain from courses completed in the Machine Tool Operations Certificate program, when you enroll in the Associate degree program you are offered two options; one is greater in depth in machine operator training, the other offers greater breadth through supervisory training.

	Suggested Sequence	Sem Hrs
General Education Courses		
>*ENG 111 College Composition I	■ ■ ■ □	3
ENG 112 College Composition II OR		
ENG 113 Technical Writing	□ □ ■ ■	3
>*MTH 103 Applied Geometry and Trigonometry OR		
MTH 113 Applied Trigonometry	□ ■ ■ □	4
>*MTH 111 Applied Algebra OR		
MTH 119 Intermediate Algebra	■ □ □ □	4
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
SPH 112 Fundamentals of Oral Communication OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		22

Technical Core Courses		
>*CAD 114 AutoCAD Introduction	■ □ □ □	2
>*CNC 160 Computer Numerical Control Programming I	■ ■ ■ □	3
>*DRF 120 Beginning Industrial Blueprint Reading	■ □ □ □	2
>*DRF 124 Blue Print Reading for Machine Tool Operators	■ □ □ □	2
>*MS 101 Machine Shop I	■ □ □ □	4
>*MS 102 Machine Shop II	■ □ □ □	4
>*MS 103 Machine Shop III	■ □ □ □	4
>*MS 104 Machine Shop IV	□ ■ □ □	4
>*MS 105 Machine Shop V	□ ■ □ □	4
>*MS 106 Machine Shop VI	□ ■ □ □	4
>*MS 107 Machine Shop VII	□ ■ □ □	4
>*MS 108 Machine Shop VIII	□ ■ □ □	4
>*MS 109 Machine Shop IX	□ ■ □ □	4
>*MS 112 Ferrous Heat Treatment	■ ■ □ □	2
>*MS 120 Machinist's Handbook	■ ■ □ □	2
SUBTOTAL		49

Industrial Supervision Option:

IS 110 Industrial Supervision	■ ■ □ □	3
IS 118 Industrial Safety	■ ■ ■ ■	2
IS 120 Supervisor/Employee Relations	□ □ ■ ■	3
MFG 111 Manufacturing Processes	■ ■ ■ ■	3
MFG 240 Quality and Productivity Management	□ □ ■ ■	3
SUBTOTAL		14

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 85

Machine Tool Operations Option:

MS 210 Machine Shop X	□ □ □ ■	4
MS 211 Machine Shop XI	□ □ □ ■	4
MS 212 Machine Shop XII	□ □ □ ■	4
SUBTOTAL		12

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 83

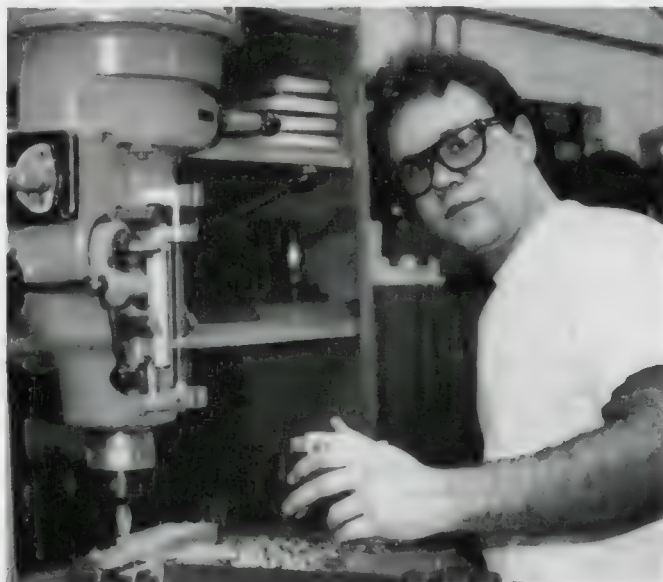
TOTAL CREDITS REQUIRED FOR CERTIFICATE 60

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">".

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

1. A waiting list is maintained for the program by the faculty. You may put your name on the list by indicating on your Delta application that you want Machine Tool Operations, Code A1 or B9, or by filling out an application in the Counseling Center office. For more information and program details, see a Counseling staff member.
2. MS 101 through 109 are not necessarily taken in the order listed. The faculty will assign you to your next class based on your progress/machine availability. Usually three five-week machine shop classes are taken per semester.
3. See page 85 for graduation requirements.
4. Delta College reserves the right to modify curriculum requirements.



MANAGEMENT

OPTIONS:

GENERAL MARKETING OFFICE SERVICES

RETAIL SMALL BUSINESS

Associate in Business Studies Degree

Delta College offers the following five specialized management degree options:

GENERAL MANAGEMENT: This program is designed to provide a basic foundation in the major functional areas of business management and allows you to structure an individual program that will meet your own needs.

MARKETING MANAGEMENT: This program is designed to prepare you for a career in the field of sales. As a graduate you will have studied the basics of: advertising from the marketing usage point of view; consumer behavior relating to buying; merchandising policies, budgets and planning; sales management; retail organizational structure; product promotion and distribution.

OFFICE SERVICES MANAGEMENT: This program is designed to provide office operations management skills such as: developing and managing systems for office procedures; report and data compilation; filing and record keeping; information gathering techniques; personnel administration.

RETAIL MANAGEMENT: This program is designed to provide skills related to the distribution of merchandise and services within a retail store through buying procedures, inventory control and pricing; marketing processes and functions; advertising strategies.

SMALL BUSINESS MANAGEMENT: This program is designed specifically for you if you plan to own and manage your own business or if you currently own a business and want to become more proficient with your skills.

		Suggested Sequence	Sem Hrs
General Education Courses (Required for all options)			
ECN 221	Principles of Economics I	■ ■ ■ ■	4
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
	SUBTOTAL		9

Business Courses (Required for all options)			
CIS 133	Introduction to Computer Information Systems	■ ■ ■ ■	4
* GB 110	Business Math	■ ■ ■ ■	3
GB 153	Introduction to Business	■ ■ ■ ■	3
* GB 245	Principles of Management	■ ■ ■ ■	3
GB 251	Business Law I	■ ■ ■ ■	3
* OSE 151	Business Communications I	■ ■ ■ ■	3
* OSE 152	Business Communications II	■ ■ ■ ■	3
	SUBTOTAL		22

General Management

ACC 211	Principles of Accounting I	■ ■ ■ ■	4
ACC 212	Principles of Accounting II	■ ■ ■ ■	4
GB 256	Personnel Management I	■ ■ ■ ■	3
GB 265	International Business	■ ■ ■ ■	3
GB 274	Computer Aided Decisions	■ ■ ■ ■	2
---	General Electives	■ ■ ■ ■	15
	SUBTOTAL		31

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Marketing Management

ACC 111	Introductory Accounting OR		
ACC 211	Principles of Accounting I	■ ■ ■ ■	4
GB 143	Principles of Advertising	■ ■ ■ ■	3
GB 145	Principles of Sales	■ ■ ■ ■	3
GB 158	Public Relations OR		
SOC 211	Principles of Sociology	■ ■ ■ ■	3
* GB 243	Principles of Marketing	■ ■ ■ ■	3
GB 247	Principles of Retailing OR		
* GB 248	Principles of Buying for Resale OR		
GB 265	International Business	■ ■ ■ ■	3
* GB 253	Applied Marketing Strategies	■ ■ ■ ■	3
GB 274	Computer Aided Decisions	■ ■ ■ ■	2
---	General Electives	■ ■ ■ ■	7
	SUBTOTAL		31

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Office Services Management

ACC 111	Introductory Accounting OR		
ACC 211	Principles of Accounting I	■ ■ ■ ■	4
CIS 132	Spreadsheet Fundamentals	■ ■ ■ ■	2
CIS 260	dBase	■ ■ ■ ■	3
* GB 256	Personnel Management I	■ ■ ■ ■	3
OSE 145	Integrated Office Systems	■ ■ ■ ■	4
OSE 155	Editing	■ ■ ■ ■	2
OSE 158	Records Management	■ ■ ■ ■	2
OSE 245	Advanced Software Applications	■ ■ ■ ■	3
OSE 268	General Office Practices	■ ■ ■ ■	3
---	General Electives	■ ■ ■ ■	5
	SUBTOTAL		31

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Retail Management

ACC 111	Introductory Accounting OR		
ACC 211	Principles of Accounting I	■ ■ ■ ■	4
CED 127	Co-Op: Retail/Computer	■ ■ ■ ■	3
* GB 247	Principles of Retailing	■ ■ ■ ■	3
CJ 182	Business Security	■ ■ ■ ■	1
FM 151	Display	■ ■ ■ ■	1
GB 143	Principles of Advertising	■ ■ ■ ■	3
GB 145	Principles of Sales	■ ■ ■ ■	3
GB 243	Principles of Marketing	■ ■ ■ ■	3
GB 248	Principles of Buying for Resale	■ ■ ■ ■	3
GB 256	Personnel Management I	■ ■ ■ ■	3
---	General Electives	■ ■ ■ ■	9
	SUBTOTAL		31

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Small Business Management

ACC 111	Introductory Accounting OR		
ACC 211	Principles of Accounting I	■ ■ ■ ■	4
CIS 120	Small Computer Systems	■ ■ ■ ■	3
GB 131	Small Business Management I	■ ■ ■ ■	3
GB 132	Small Business Management II	■ ■ ■ ■	3
GB 145	Principles of Sales	■ ■ ■ ■	3
GB 243	Principles of Marketing Strategies	■ ■ ■ ■	3
GB 252	Business Law II	■ ■ ■ ■	3
---	General Electives	■ ■ ■ ■	9
	SUBTOTAL		31

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. In only the Office Services Management option, OSE 145 may be substituted for CIS 133 (one of the Business Courses required). If this is done, the number of elective credits required will increase to 9.
- 2. For more information about the Co-Op Program, inquire at room F-40 (Allied Health Building) or phone 686-9479.
- 3. See page 85 for graduation requirements.
- 4. Delta College reserves the right to modify curriculum requirements.

MECHANICAL DESIGN TECHNOLOGY

Associate in Applied Science Degree

As a mechanical design technician, you will assist engineers in design and development work. This program is designed to equip you with one of the most sought-after technical skills in this area - mechanical drafting and CAD. In addition to placing lines on the drawing board or on the computer screen, however, the designer requires a broad technical knowledge to be able to select a solution to a problem from many alternatives. The largest employers are the electrical equipment, chemicals, machinery, manufacturing, and aerospace industries. In the non-manufacturing area the major employers are communications, engineering and architectural firms.

	Suggested Sequence	Sem Hrs
General Education Courses		
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II OR		
ENG 113 Technical Writing	□ ■ □ □	3
MTH 103 Applied Geometry and Trigonometry OR		
MTH 113 Applied Trigonometry	□ ■ ■ □	4
MTH 111 Applied Algebra OR		
MTH 119 Intermediate Algebra	■ ■ □ □	4
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
PHY 101 Applied Physics OR		
PHY 111 General Physics I	■ ■ □ □	4
POL 103 Introduction to American Government	■ ■ ■ ■	3
SUBTOTAL		23
Technical Courses		
CAD 114 AutoCAD Introduction	■ □ □ □	2
CAD 214 AutoCAD Effective Techniques	□ □ ■ □	2
DRF 104 Basics of Industrial Drafting OR		
DRF 105 Beginning Industrial Drafting	■ □ □ □	4/3
DRF 107 Computer-Aided Industrial Drafting	□ ■ □ □	3
DRF 256 Descriptive Geometry	□ □ ■ □	3
DRF 257 Advanced Industrial Drafting	□ □ □ ■	6
EET 235 Electrical Circuits	□ □ ■ ■	4
MFG 111 Manufacturing Process	■ ■ ■ ■	3
MS 114 Machine Tools	■ ■ ■ ■	3
MT 220 Introduction to Fluid Power	□ □ ■ ■	3
MT 221 Materials and Metallurgy	□ □ ■ ■	3
MT 250 Statics & Strength of Materials OR		
MT 251 Mechanics	□ □ ■ ■	3/4
MT 255 Kinematics of Mechanisms	□ □ ■ ■	3
SUBTOTAL		41
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		64

NOTATIONS:

1. This program is designed to prepare you for a technical-level career upon graduation from Delta College and is not transferable into a Mechanical Engineering Baccalaureate degree.
2. If you want to become a mechanical engineer, you are advised to consult with a counselor about transfer requirements.
3. See page 85 for graduation requirements.
4. Delta College reserves the right to modify curriculum requirements.

MECHANICAL ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

The objective of this program is to provide you with a sufficient broad base in the fundamentals of mechanical technology, drafting, CAD, manufacturing and design to be successful as a mechanical engineering technician in a metallurgical or product test laboratory, as a field technician, as an engineering aide in manufacturing or product engineer, in quality control, or in sales and service. Responsibilities as a lab technician may include not only setting up a test apparatus and running tests on an experimental product, but also writing the report and making recommendations. This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. Accreditation by TAC/ABET expands your marketability nationally as engineering technician upon graduation.

	Suggested Sequence	Sem Hrs
General Education Courses		
CHM 101 General Chemistry I OR		
CHM 111 General and Inorganic Chemistry I	■ □ □ □	5/4
CPS 140 Basic Programming for Math OR		
CPS 165 Fortran Programming	□ ■ □ □	2/3
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II OR		
ENG 113 Technical Writing	□ ■ □ □	3
MTH 113 Applied Trigonometry OR		
MTH 121 Plane Trigonometry	■ □ □ □	4/3
MTH 151 Pre-Calculus	□ □ □ □	4
MTH 161 Analytical Geometry & Calculus I	□ □ □ □	4
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
PHY 101 Applied Physics OR		
PHY 111 General Physics I	■ □ □ □	4
POL 103 Introduction to American Government	■ ■ ■ ■	3
SPH 112 Fundamentals of Oral Communication OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		35/38
Technical Courses		
CAD 114 AutoCAD Introduction	■ ■ □ □	2
DRF 104 Basics of Industrial Drafting OR		
DRF 105 Beginning Industrial Drafting	■ □ □ □	4/3
DRF 107 Computer-Aided Industrial Drafting	□ □ □ □	3
EET 215 Electronic Control & Automation	□ □ □ □	4
EET 235 Electrical Circuits	□ □ □ □	4
MFG 111 Manufacturing Process	■ ■ ■ ■	3
MS 114 Machine Tools	■ ■ ■ ■	3
MT 220 Introduction to Fluid Power	□ □ ■ ■	3
MT 221 Materials and Metallurgy	□ □ □ □	3
MT 251 Mechanics	□ □ □ ■	4
MT 252 Strength of Materials	□ □ □ ■	3
MT 255 Kinematics of Mechanisms	□ □ ■ ■	3
MT 256 Machine Design	□ □ □ ■	3
SUBTOTAL		41
TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE		76

NOTATIONS:

1. This program is designed to prepare you for a technical-level career upon graduation from Delta College and is transferable into a Baccalaureate technology degree program but not an engineering degree program.
2. Students wanting to become mechanical engineers are advised to consult with a counselor about transfer college requirements and follow the Delta College pre-engineering program.
3. See page 85 for graduation requirements.
4. Delta College reserves the right to modify curriculum requirements.

MEDICAL ASSISTING

Associate in Applied Science Degree

As a Medical Assistant, you will help physicians examine and treat patients and take care of the clerical work necessary to have a smoothly run office. In helping physicians examine patients, you may check weight, height, temperature, and blood pressure, and make simple laboratory tests. In helping with treatment, you will instruct patients about medication and self-treatment at home, give injections, apply bandages, and take electrocardiograms. Clerical duties are varied but likely to include: processing insurance forms, typing, patient billing and payment records management, scheduling appointments and handling correspondence.

The American Association of Medical Assistants (AAMA) sponsors a certification program and its certifying board awards certificates to medical assistants who pass a comprehensive written examination. Other eligibility requirements to take the certification exam are available from your counselor. Certification is not a license and is not required for AAMA membership; however, physicians usually consider Certified Medical Assistants to be highly qualified assistants.

	Suggested Sequence	Sem Hrs
Non Clinical Courses		
# *BIO 101 Introduction to Anatomy and Physiology	■ □ □ □	4
# *BIO 102 Microbiology and Infection Control	■ □ □ □	2
# *HSC 105 Medical Terminology	■ □ □ □	2
*HSC 140 Basic Medical Emergencies	□ ■ ■ □	2
*HSC 205 Legal Aspects of Health Care	□ ■ ■ □	2
# *MTH 117 Mathematics for Allied Health	■ □ □ □	2
# *OSE 116 Introduction to the Medical Office	■ □ □ □	2
*OSE 151 Business Communications I	□ ■ ■ □	3
*OSE 152 Business Communications II	□ ■ ■ ■	3
*OSE 157 Filing	■ ■ ■ ■	2
*OSE 172 Keyboarding III: Intermediate	■ ■ □ □	3
*OSE 254 Medical Insurance I	□ ■ □ □	3
*OSE 255 Medical Insurance II	□ □ ■ ■	3
*OSE 266 Medical Office Practices	□ □ ■ ■	3
*OSE 276 Medical Machine Transcription	□ □ ■ ■	3
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		47

Prior to attempting to register to begin the clinical sequence you must complete the "Validation Application for Health Clinical Programs" and be officially validated. See page 28 of this catalog for the required procedures.

***You may apply for validation at the end of the semester you complete these 12 credits.**

Clinical Courses		
* MA 105 Computer Use in the Medical Office	□ ■ ■ □	3
* MA 205 Medical Office Pharmacology	□ □ ■ □	1
* MA 206 Pharmacology Applications	□ □ ■ □	1
* MA 210 Assisting the Physician I	□ ■ □ □	4
* MA 220 Assisting the Physician II	□ □ ■ □	4
* MA 230 Medical Assistant Internship	□ □ ■ ■	5
SUBTOTAL		18

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 65

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. Prior to MA 210, you must have a negative Hepatitis B Carrier test and submit a release form to verify you are free from communicable diseases. This form will be kept on file.
- 2. Before beginning MA 230 you must have the Delta College Health Appraisal completed, including a negative TB test. You must also possess current Professional (2-person) CPR certification.
- 3. See page 85 for graduation requirements.
- 4. Delta College reserves the right to modify curriculum requirements.

MEDICAL SECRETARY

Associate in Business Studies Degree

The efficiency of any organization depends in large part upon its professional office staff, which is the center of communications within a firm. Specific job duties differ among organizations and vary among their departments. As an office professional today, you must have a strong foundation in developing and transmitting communications, spreadsheets, and data bases, as well as possessing good human relations skills.

By completing this degree program, you will be trained to know medical terminology and laboratory procedures to process medical forms and insurances, to handle correspondence, and to compile and to record medical records, charts, and files.

	Suggested Sequence	Sem Hrs
General Education Courses		
GB 153 Introduction to Business	■ ■ ■ □	3
OSE 145 Integrated Office Systems	■ ■ □ □	4
*OSE 151 Business Communications I	■ ■ □ □	3
*OSE 152 Business Communications II	□ ■ ■ □	3
OSE 157 Filing	■ ■ □ □	2
OSE 172 Keyboarding III: Intermediate	■ ■ □ □	3
OSE 175 Machine Calculation	■ ■ ■ □	1
OSE 177 Proofreading	■ ■ ■ □	2
*OSE 273 Keyboarding IV: Advanced	□ □ ■ ■	3
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 101 Applied Psychology OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		32

Technical Courses

BIO 101 Introduction to Anatomy and Physiology	■ ■ □ □	4
HSC 105 Medical Terminology	■ □ □ □	2
HSC 205 Legal Aspects of Health Care	□ □ □ □	2
MA 205 Medical Office Pharmacology	□ ■ ■ □	1
OSE 116 Introduction to the Medical Office	■ ■ □ □	2
*OSE 254 Insurance Forms I	□ □ ■ □	3
*OSE 255 Insurance Forms II	□ □ ■ ■	3
*OSE 266 Medical Office Procedures	□ □ ■ ■	3
*OSE 276 Machine Transcription/Medical	□ □ ■ ■	3
--- --- General Electives	■ ■ ■ ■	7
SUBTOTAL		30

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. Credit by exam is available for OSE 151, OSE 157, and OSE 175.
- 2. Electives may be substituted upon demonstration of equivalent skills for OSE 172.
- 3. Typewritten assignments are required for OSE 151 Business Communications I.
- 4. A knowledge of general math is required for OSE 175 Machine Calculation.
- 5. OSE 101 WordPerfect Basics is a prerequisite for OSE 172 and 273 unless you have completed OSE 171.
- 6. See page 85 for graduation requirements.
- 7. Delta College reserves the right to modify curriculum requirements.

NANNY

Associate in Applied Science Degree/Certificate

As a nanny, you will be a trained in-home child care professional who works as part of a family team to provide for the child's physical, emotional, educational, social and recreational needs. You should gain the respect, confidence, and cooperation of the children, maintain positive discipline, provide a safe and challenging environment, and deal calmly with emergency situations. Physically, you must maintain good health and be able to stoop, kneel, crouch, and crawl. Good vision and hearing is necessary, as well as being able to lift and carry children. You should enjoy working with children in a one-on-one situation. You must be responsible, nurturing, and able to work independently, yet cooperatively within a family setting.

	Suggested Sequence	Sem Hrs
General Education Courses		
BIO 111 Principles of Biology	■ ■ ■ ■	4
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II	□ ■ ■ □	3
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government OR		
POL 111 American Government and Politics	■ ■ ■ ■	3/4
1--- --- Humanities Electives	■ ■ ■ ■	8
2--- --- Math/Science Elective	■ ■ ■ ■	4
3--- --- Social Science Elective	■ ■ ■ ■	4/5
>#--- --- Approved Elective(s)	■ ■ ■ ■	4
SUBTOTAL		35/36

Approved Electives (select one)

ART 113 Art Education	MUS 100 Elements of Music
CPS 125 Computer Literacy	PEH 266 Teaching of Elementary Physical Education
ED 107 Books for Pre School	PSY 211 General Psychology
ENG --- Elective (Based on ASSET)	
ENG 251 Children's Literature	

Specialized Courses

> NA 112 Creative Activities with Children	□ □ ■ □	3
> NA 113 Building Effective Relationships	□ □ ■ □	3
>*NA 114 Child Development Survey I	□ □ ■ □	3
>*NA 115 Child Development Survey II	□ □ ■ □	3
> NA 116 Study of Family Dynamics	□ □ ■ ■	3
>*NA 118 Physical Care of Infant and Child	□ □ ■ □	3
> NA 119 Nutrition for Young Child	□ □ ■ ■	3
> NA 120 Professional Development for Nanny	□ □ ■ ■	3
>*NA 160 Practicum as a Nanny I	□ □ ■ □	2
>*NA 161 Practicum as a Nanny II	□ □ ■ ■	1
SUBTOTAL		27

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

TOTAL CREDITS REQUIRED FOR CERTIFICATE 31

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">".



"I Decided on Delta!"

"Delta College charges a more reasonable tuition than other area colleges. It is also close to home, so college can fit into anyone's schedule."

Insoon Felch
Kawkawlin

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

- Humanities elective courses must be in at least two different subject areas. See page 86 for approved courses. SPH 114 is strongly recommended.
- Math/Science electives. See page 86 for approved courses (**cannot be in Biology**).
- Social Science elective. See page 86 for approved courses (**cannot be in Political Science**).
- Applicants for child care worker positions may be required to pass a physical examination. Periodically, child care workers must have a negative tuberculin test and may have to undergo tests or immunization for other communicable diseases.
- A Nanny information night is usually held once each semester. It is highly advisable to attend this session.
- You will be required to submit a health appraisal signed by a licensed physician declaring, to the best of the physician's knowledge, that you are physically capable of performing the duties that are required for the safe care of children. Also, you must submit evidence of freedom from communicable tuberculosis.
- You may be required to sign a document asking if you have ever been convicted of any offense other than a minor traffic violation and whether you have ever been involved in abuse or neglect of children.
- NA 112, 113, 114, 118, 160 are taken as a block in Fall Semester.
- NA 115, 116, 119, 120, 161 are taken as a block in Winter Semester.
- For further information please call 686-9417 or 686-9334.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

NURSING

OPTIONS: RN CLINICAL TRACK LPN-RN CLINICAL TRACK

Associate in Applied Science Degree

The R.N. curriculum prepares you to function effectively as a member of the health care team. As a graduate nurse, you will be qualified for employment in structured settings; for example, acute care hospitals, extended care facilities, nursing homes, clinics. Upon successfully completing this Program, you are eligible to take the Registered Nurse licensure exam. This Delta College Program is accredited by the National League for Nursing and approved by the Michigan Board of Nursing.

	Suggested Sequence	Sem Hrs
General Education Courses		
* BIO 130 Introduction Chemistry and Cellular Biology	■ □ □ □	3
* BIO 131 Anatomy and Physiology I	■ ■ □ □	4
* BIO 132 Anatomy and Physiology II	□ ■ ■ □	4
* BIO 203 General Microbiology	□ □ ■ ■	4
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II	□ ■ ■ □	3
+NUR 100 Introduction to Health Care: Nursing	■ ■ ■ □	2
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
PHL 215 Health Care Ethics OR		
PHL 230 Bioethics	□ ■ ■ □	2/3
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 211 General Psychology	■ ■ ■ ■	4
SOC 211 Principles of Sociology	■ ■ ■ ■	3
	SUBTOTAL	34/37

+ Not Required if you are on the LPN-RN track.

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application for Health Clinical Programs" and be officially validated. See page 28 of this catalog for the required procedures.

RN Clinical Track Courses

Semester 1 (5 Week, Sequential Courses)

*NUR 101 Fundamentals of Nursing I	3
*NUR 102 Fundamentals of Nursing II	3
*NUR 103 Care of the Elderly Adult	3
	SUBTOTAL
	9

Semester 2 (15 Week Courses)

*NUR 150 Basic Nursing Care of the Adult Client	9
	SUBTOTAL
	9

Semester 3 (5 Week, Non-Sequential Courses)

*NUR 105 Obstetrical Nursing	3
*NUR 106 Pediatric Nursing	3
*NUR 209 Psychosocial Nursing	3
	SUBTOTAL
	9

Semester 4 (15 Week Courses)

*NUR 250 Nursing Care & Management	9
*PHL 231 Bioethics: Application for Nurses	1
	SUBTOTAL
	10

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 71

LPN-RN Clinical Track

Semester 1

*NUR 161 Transition-Basic Principles of Adult Care	2
*NUR 162 Role & Function of the RN	2
	SUBTOTAL
	4

Semester 2

*NUR 163 Advanced Principles of Adult Care for LPN	5
*NUR 164 Material/Child Health for LPN	5
*NUR 209 Psychiatric Nursing	3
	SUBTOTAL
	13

Semester 3

*NUR 250 Advanced Nursing Care & Management	9
*PHL 231 Bioethics	1
	SUBTOTAL
	10

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

- Challenge exam available for BIO 130.
- Only currently licensed LPNs have the option to take the LPN-RN transition track of nursing courses leading to RN licensure examination. Proof of current LPN licensure must be provided. If interested in this option, you should make an appointment with the nursing counselor.
- Prerequisite qualifications are: (a) be admitted to Delta College (b) provide transcripts from high school and all other colleges or training institutions attended (c) completion, with a "C" minimum grade in each, courses BIO 130, BIO 131, BIO 132, BIO 203 and NUR 100 (d) completion, with a C grade average in at least 12 credits from the remaining general education courses listed.
- Due to the limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" curriculum. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Records and Registration Office.
- First semester nursing courses are offered Fall and Winter Semesters only.
- You must achieve a minimum "C" grade in each nursing course to be eligible to continue in the program and to graduate from the program. You must comply with all Nursing Program Progression and Retention Policies (copy available from nursing counselor).
- Program-Entry Health Requirement** You must submit a complete physical examination report to the Delta Health Office prior to entrance into the first clinical course. The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. A positive TB test will require a recent chest x-ray. As a clinical student, you are required to have a physical exam annually prior to the beginning of the semester. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam sheet or you must submit a signed waiver form.
- C.P.R Training:** Entering clinical courses, you must have a CPR card which must remain current throughout the clinical program. Training may be obtained through the Red Cross, Delta College, your local Community Education, or Hospital Education facility. (A photocopy of your certificate must be turned in at the Nursing Office prior to the start of classes.) The CPR certification must include one- and two-person rescuer, infant rescuer and airway obstruction relief.
- In addition to tuition and textbook costs, you must provide your own uniforms, clinic shoes, and transportation to clinical settings (plus possible hospital parking charges).
- Nursing course NUR 100 is waived if you have an LPN license and enroll in the LPN-RN transition track.
- You are expected to possess good basic mathematics skills prior to enrollment in NUR 100. If math is weak, you are advised to take MTH 117 (Math for Allied Health) or NUR 120 (Medication Administration).
- You will receive a Nursing Student Handbook during the clinical orientation session, which contains additional information, requirements and specific program policies.
- Clinical nursing courses are demanding and intensive. It is recommended that you prepare for this level of involvement by taking at least one semester of full-time study in pre-clinical courses immediately prior to entry into clinical courses.
- The State Board of Nursing may deny a graduate nurse the right to sit for the State Board Examination if the applicant has a **felony conviction**. Questions may be directed to the Department of Commerce, Michigan Board of Nursing, P.O. Box 30018, Lansing, MI 48909-7518.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

OFFICE CLERK

Certificate Program

Clerk-typist duties are generally a combination of typing, filing, sorting mail and printed materials, and other general office responsibilities. Upon completing this certificate program, you are prepared for entry-level positions such as Data Typist, General Typist, File Clerk, Mail Clerk, or Office Machine Operator.

	Suggested Sequence	Sem Hrs
General Education Courses		
SPH 114 Interpersonal Communications OR		
PSY 101 Applied Psychology	■ ■ ■	3
SUBTOTAL		3
Business Courses		
GB 110 Business Math	■ ■ ■	3
OSE 145 Integrated Office Systems	■ □ □	4
OSE 151 Business Communication I	■ ■ □	3
OSE 155 Editing	■ □ □	2
OSE 157 Filing	■ ■ ■	2
OSE 171 Keyboarding II: Format	■ □ □	3
OSE 172 Keyboarding III: Intermediate	□ ■ □	3
OSE 175 Machine Calculation	■ ■ ■	1
OSE 181 Microsoft Word OR		
OSE 185 Wordstar OR		
OSE 186 Multimate	□ ■ □	3
*OSE 273 Keyboarding IV: Advanced	□ □ ■	3
*OSE 274 Machine Transcription	□ ■ □	2
SUBTOTAL		29
TOTAL CREDITS REQUIRED FOR CERTIFICATE		32

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
1. Credit by examination is available for GB 110 Business Math, OSE 151 Business Communications I, OSE 155 Editing, OSE 157 Filing, OSE 175 Machine Calculation, OSE 184 Displaywrite and OSE 274 Machine Transcription. (There is a required testing fee.)
 2. If you are entering with equivalent skills, you may waive OSE 171 or 172; however, a minimum of 32 semester hours will be required to receive the certificate.
 3. Typewritten assignments required for OSE 151 Business Communications I.
 4. If weak in mathematics, you may want to take Pre-Algebra Math (MTH 100) before enrolling in GB 110 Business Math. (pre-test available).
 5. A general knowledge of math is required for OSE 175 Machine Calculation.
 6. OSE 101 WordPerfect Basics is a prerequisite for OSE 172, OSE 273, and OSE 274, unless you have completed OSE 171.
 7. See page 85 for graduation requirements.
 8. Delta College reserves the right to modify curriculum requirements.

An Employer's Opinion

"We use Delta regularly as a source for new employees and have always gotten a favorable response. Delta is one of the first places we go when seeking new job applicants."

Ms. Mindy Wolpert • Great Lakes Bancorp, Human Services Department • 124 Jefferson • Saginaw, MI 48607

OFFICE PROFESSIONAL

OPTIONS: ACCOUNTING SHORTHAND

Associate in Business Studies Degree

The efficiency of any organization depends in large part upon its professional office staff which is the center of communications within a firm. Specific job duties differ among organizations and vary among their departments. As an office professional today you must have a strong foundation in developing and transmitting communications, spreadsheets, data bases, as well as possessing good human relation skills. Opportunities for office employment may be found in banking, government, education, entertainment, insurance, retailing and wholesaling, manufacturing, real estate, travel, and transportation.

Delta College offers the following two specialized Office Professional Programs:

ACCOUNTING: if you have an interest in working in an accounting environment; **SHORTHAND:** if you are interested in the legal or office administrative setting.

	Suggested Sequence	Sem Hrs
General Education Courses		
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 101 Applied Psychology OR		
SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		8

Business Courses		
CIS 132 Spreadsheet Fundamentals	□ ■ □ □	2
CIS 260 dBase	□ □ □ □	3
GB 153 Introduction to Business	■ ■ ■ ■	3
OSE 145 Integrated Office Systems	■ ■ □ □	4
*OSE 151 Business Communication I	■ ■ □ □	3
*OSE 152 Business Communications II	□ ■ ■ ■	3
OSE 155 Editing	■ ■ ■ □	2
OSE 157 Filing	■ ■ ■ ■	2
OSE 172 Keyboarding III: Intermediate	■ ■ □ □	3
OSE 175 Machine Calculation	■ ■ ■ ■	1
OSE 196 Desktop Publishing-Windows	□ ■ ■ ■	2
*OSE 245 Advanced Software Applications	□ □ ■ □	2
*OSE 268 General Office Practice	□ □ ■ ■	3
*OSE 273 Keyboarding IV: Advanced	□ □ □ ■	3
*OSE 274 Machine Transcription	□ □ ■ ■	2
SUBTOTAL		38

Accounting		
ACC 111 Introductory Accounting OR		
ACC 211 Principles of Accounting	■ ■ □ □	4
*ACC 214 Microcomputer Accounting Applications	□ □ ■ ■	4
--- --- General Electives	■ ■ ■ ■	8
SUBTOTAL		16

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Shorthand		
GB 110 Business Math	■ ■ □ □	3
OSE 161 Alphabetic Shorthand I	■ ■ □ □	4
*OSE 162 Alphabetic Shorthand II	□ □ ■ ■	3
--- --- General Electives	■ ■ ■ ■	6
SUBTOTAL		16

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- 1. Credit by examination is available for OSE 151, OSE 157, OSE 175, OSE 155, and OSE 274.
- 2. Electives may be substituted upon demonstration of equivalent skills for OSE 172.
- 3. Typewritten assignments required for OSE 151 Business Communications I.
- 4. A knowledge of general math is required for OSE 175 Machine Calculation.
- 5. Students not scoring at least 70% on math placement test in GB 110 may be required to take MTH 100.
- 6. OSE 101 WordPerfect Basics is a prerequisite for OSE 172, OSE 273, and OSE 274 unless you have completed OSE 171.
- 7. OSE 145 recommended before CIS 132.
- 8. Students planning to transfer to Northwood University should select SPH 114 from the General Education courses list.
- 9. See page 85 for graduation requirements.
- 10. Delta College reserves the right to modify curriculum requirements.



"I Decided on Delta!"

"Delta College offers everything I need. They've got quality instructors, a great selection of classes, a reasonable tuition, and they are located close to home."

Sandra Garth
Saginaw

PHYSICAL THERAPIST ASSISTANT

Associate in Applied Science Degree

Delta's program is for the training of Physical Therapist Assistants only. If you are planning to become a Physical Therapist, you should follow the Pre-Physical Therapy curriculum guide sheet available in Delta's Counseling Center.

As a Physical Therapist Assistant you will work under the direction and supervision of Registered Physical Therapists. You may work in any setting in which Registered Physical Therapists are present. Such settings include acute care hospitals, rehabilitation centers, special education schools, geriatric facilities and private clinics. As a graduate of this program you will be able to carry out patient treatment programs designed by the Registered Physical Therapist which utilize heat, light, water, sound, massage, therapeutic exercises and rehabilitation/habilitation procedures. This Delta College program is accredited by the American Physical Therapy Association.

	Suggested Sequence	Sem Hrs
General Education Courses		
*BIO 131 Anatomy and Physiology I	■ ■ □ □	4
*BIO 132 Anatomy and Physiology II	□ ■ ■ □	4
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II	□ ■ □ □	3
*HSC 105 Medical Terminology	■ ■ □ □	2
+PE --- Physical Activity Elective	■ ■ ■ ■	1
+PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government OR		
POL 111 American Government and Politics	■ ■ ■ ■	3/4
PSY 211 General Psychology	■ ■ ■ ■	4
*SPH 114 Interpersonal Communications	■ ■ ■ ■	3
PHL 215 Health Care Ethics	■ ■ ■ □	Choose One 3
PSY 223 Child Psychology	□ ■ ■ □	
PSY 231 Psychology of Personality	□ ■ ■ □	
PSY 241 Abnormal Psychology	□ ■ ■ □	
PSY 250 Behavior Management	□ ■ ■ □	
SOC 275 Sociology of Stress	□ ■ ■ □	
SUBTOTAL		31/32

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application for Health Clinical Programs" and be officially validated. See page 28 of this catalog for the required procedures.

Clinical Course Sequence

Semester 1 (Fall)

*PTA 101 Clinical Anatomy I	■ □ □ □	2
*PTA 105 Modalities I	■ □ □ □	6
*PTA 110 Therapeutic Exercise I	■ □ □ □	3
SUBTOTAL		11

Semester 2 (Winter)

*PTA 102 Clinical Neuroanatomy	□ ■ □ □	2
*PTA 120 Therapeutic Exercise 2	□ ■ □ □	2
*PTA 121 Human Growth and Development	□ ■ □ □	2
*PTA 123 Clinical Medicine I	□ ■ □ □	3
*PTA 124 P.T.A. Clinic I	□ ■ □ □	2
*PTA 125 Tests & Measurements	□ ■ □ □	2
SUBTOTAL		13

Semester 3 (Fall)

*PTA 205 Modalities II	□ □ ■ □	2
*PTA 210 Therapeutic Exercise 3	□ □ ■ □	2
*PTA 213 Clinical Medicine I	□ □ ■ □	1
*PTA 214 P.T.A. Clinic 2	□ □ ■ □	3
*PTA 215 Rehabilitation Programs	□ □ ■ □	1
SUBTOTAL		9



Semester 4 (Fall)

*PTA 220 Chest Physical Therapy	□ □ □ ■	1
*PTA 221 Clinical Seminar	□ □ □ ■	2
*PTA 224 P.T.A. Clinic 3	□ □ □ ■	9
SUBTOTAL		12

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 76

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
1. A maximum of 30 students will be accepted each Fall semester for Physical Therapist Assistant courses. The procedures for application into the P.T.A. Program are in the guidelines for validation which are in the Counseling Center and on page 28 of this catalog. You will be eligible to attempt to register for clinical courses only after successfully completing the prerequisite qualifications and receiving a "Semester and Year of Validation" from the Records and Registration Office.
2. Prerequisite qualifications are: High school graduate or GED equivalent; completion, with a C (2.0) minimum grade in each, HSC 105, SPH 114, BIO 131 & 132; and completion, with a C (2.0) grade average of at least 6 credits from the remaining general education courses listed; provide transcripts from high school and all other colleges attended; be admitted to Delta College.
3. Prior to enrolling in BIO 131, you must take BIO 130 or pass the BIO 130 challenge exam. Math skills through Algebra are a must.
4. Physical Therapist Assistant courses are offered day hours only and must be taken in the sequence shown.
5. You must achieve a minimum C (2.0) grade in each Physical Therapist Assistant course to be eligible to continue in the program.
6. In addition to tuition fee and textbook costs, you must purchase uniforms, clinic shoes and provide your transportation to clinical settings (plus possible hospital parking charges).
7. After notification received for validation, you must have a complete physical examination including a negative TB test done annually.
8. Current CPR certification is required for admission to the clinical sequence. CPR certification must be renewed annually.
9. An observation series is also required. Forms are available in the Counseling Center.
10. You need to be aware that clinical hospital assignments may be outside the Tri-county area.
11. + Highly recommended: PE 158 Adapted Aquatic Aide and PE 160 Health/Lifestyle Risk.
12. See page 85 for graduation requirements.
13. Delta College reserves the right to modify curriculum requirements.

PRACTICAL NURSE

Certificate Program

The P.N. Program is an intense FULL-TIME three semesters that will require college-level reading skills, as well as skills in health care mathematics as taught in MTH 117 and NUR 120.

	Suggested Sequence	Sem Hrs
Pre-Clinical Courses		
*BIO 130 Introduction to Chemistry & Cell Biology	■ □ □ □	3
*NUR 100 Introduction to Health Care	■ □ □ □	2
SUBTOTAL		5

Prior to attempting to register to begin the clinical sequence, you must complete the "Validation Application for Health Clinical Programs" and be officially validated. See page 28 of this catalog for the required procedures.

Clinical Courses		
*BIO 131 Anatomy and Physiology I	□ ■ □ □	4
*BIO 132 Anatomy and Physiology II	□ □ ■ □	4
#PNE 100 Role/Function Nurse Assistant (optional)	□ □ □ □	(1)
*PNE 101 Fundamentals of Nursing	□ ■ □ □	7
*PNE 102 PN Care of the Adult I	□ □ ■ □	8
*PNE 103 PN Maternal Child Care	□ □ □ ■	5
*PNE 104 PN Care of the Adult II	□ □ □ ■	8
*PNE 110 PN Principles of Pharmacology	□ ■ □ □	1
SUBTOTAL		37/38

TOTAL CREDITS REQUIRED FOR CERTIFICATE 42

Recommended Preparatory Classes

HSC 105 Medical Terminology	■ □ □ □	2
MTH 117 Allied Health Math OR		
NUR 120 Medication Administration	■ □ □ □	3

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

1. # Only students wishing to take State Nurse Aide Certification exam at completion of first semester **must take this course**.
2. Due to the limited capacity of clinical facilities and the specific requirements of the accreditation agencies, this Program is considered a "limited enrollment" curriculum. You will be eligible to attempt to register for clinical courses only AFTER SUCCESSFULLY COMPLETING THE PREREQUISITE COURSES AND RECEIVING A "SEMESTER AND YEAR OF VALIDATION" FROM THE RECORDS AND REGISTRATION OFFICE.
3. The clinical courses are to be completed in sequence and taken on a fulltime basis. A grade of "C" (2.0) or better is required in each course to progress to the next course and to complete the program.
4. The Anatomy and Physiology courses (BIO 131 and 132) may be completed prior to the clinical semester listed.
5. **C.P.R. Training:** All students entering clinical courses must have a CPR card which must remain current throughout the clinical program. Training may be obtained through the Red Cross, Delta College, your local Community Education, or Hospital Education facility. (A photocopy of your certificate must be turned in at the P.N. Coordinator's Office prior to the start of classes). The CPR certification must include one-and two-person rescuer, infant rescuer and airway obstruction relief.

It is anticipated that this Program will no longer be offered (after Fall 1993) as a program option only. Delta College is working with the Michigan State Board of Nursing to implement a "Ladder Program" (PN to RN) for Fall 1994 or 1995. The Pre-Clinical Courses required to be successfully completed prior to submitting a "Validation Application for Health Clinical Programs" likely will be:

- *BIO 130 Introduction to Chemistry & Cell Biology
- *BIO 131 Anatomy & Physiology I
- *BIO 132 Anatomy & Physiology II
- *BIO 203 Microbiology
- *NUR 100 Introduction to Health Care
- ENG 111 College Composition I

Students are advised to continually check with the Counseling Center or the Nursing Division for proposed changes.

6. **Program-Entry Health Requirement:** You must submit a complete physical examination report to the Delta Health Office **prior** to entrance into the first clinical course. The physical examination must confirm that you are free from communicable disease and capable of performing all the duties necessary for the safe care of patients. A positive TB test will require a recent chest X-ray. Clinical students are required to have a physical exam annually prior to the beginning of the semester. Proof of Hepatitis B vaccine immunization must be submitted with the physical exam sheet or you must submit a signed waiver form.
7. The State Board of Nursing may deny a graduate practical nurse the right to sit for the State Board Examination if the applicant has a felony conviction. Questions may be directed to the Department of Commerce, Michigan Board of Nursing, P.O. Box 30018, Lansing, Michigan 48909-7518.
8. You are responsible for your own uniforms, equipment and transportation. Information regarding the uniform and equipment needs will be provided by the PN Coordinator during a clinical orientation.
9. See page 85 for graduation requirements.
10. Delta College reserves the right to modify curriculum requirements.

RADIOGRAPHY

Associate in Applied Science Degree

Working under the supervision of a physician, Radiographers (also called Radiologic Technologists) assist in patient care and diagnosis through the use of x-ray equipment to take images of the internal structures of a patient's body. Radiographers position the patient; determine and set exposure factors; expose and process the required number of radiographs; prepare and help administer chemical mixtures called contrast media; assist in fluoroscopic examinations; and use radiation protection devices and techniques. Upon successfully completing this program, you are eligible to take the national certification examination administered by the American Registry of Radiologic Technologists. This program is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Joint Review Committee on Education in Radiologic Technology.

	Suggested Sequence	Sem Hrs
General Education Courses		
*BIO 102 Microbiology and Infection Control	■ □ □ □	2
*BIO 131 Anatomy and Physiology I	□ ■ □ □	4
*BIO 132 Anatomy and Physiology II	□ □ ■ □	4
# ENG 111 College Composition I	■ □ □ □	3
# ENG 112 College Composition II	□ □ ■ □	3
*HSC 105 Medical Terminology	■ ■ ■ □	2
*HSC 140 Basic Medical Emergencies	■ ■ ■ □	2
# PE --- Physical Activity Elective	■ ■ ■ ■	1
# PE --- Physical Activity Elective	■ ■ ■ ■	1
# POL 103 Introduction to American Government OR		
# POL 111 American Government and Politics	■ ■ ■ ■	3/4
# PSY 100 Applied Psychology OR		
# PSY 211 General Psychology	■ ■ ■ ■	3/4
# SPH 114 Interpersonal Communications	■ ■ ■ ■	3
SUBTOTAL		31/33

Prior to attempting to register to begin the clinical sequence you must complete the "Validation Application for Health Clinical Programs" and be officially validated. See page 28 of this catalog for the required procedures.

Clinical Course Sequence:

First Semester (Fall)

*RAD 100 X-Radiation Physics	4
*RAD 102 Introduction to Radiography	2
*RAD 105 Fundamentals of Radiography	2
*RAD 110 Principles of Radiographic Exposure	1
*RAD 115 Clinical Orientation	3
SUBTOTAL	12

Second Semester (Winter)

*RAD 120 Principles of Radiation Biology & Protection	2
*RAD 130 Radiographic Procedures I	2
*RAD 135 Clinical Education I	6
*RAD 140 Clinical Seminar I	1
SUBTOTAL	11

Third Semester (Spring)

*RAD 150 Radiographic Procedures II	2
*RAD 155 Radiographic Quality Assurance	1
*RAD 160 Clinical Education II	6
*RAD 165 Clinical Seminar II	1
SUBTOTAL	10

Fourth Semester (Fall)

*RAD 210 Pathology in Radiography	2
*RAD 215 Radiographic Procedures III	2
*RAD 220 Clinical Education III	6
*RAD 225 Clinical Seminar III	1
SUBTOTAL	11



Fifth Semester (Winter)

*RAD 235 Radiographic Procedures IV	2
*RAD 240 Special Procedures	3
*RAD 245 Clinical Education IV	6
*RAD 250 Clinical Seminar IV	1
SUBTOTAL	12

Sixth Semester (Spring)

*RAD 260	10
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TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 97

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

With a GPA of 2.0 overall.

- Approximately 18 students will be accepted each Fall Semester for Radiography courses. After successfully completing the prerequisite qualifications and submitting a "Validation Application for Health Clinical Programs," you will be eligible to attempt to register per special phone registration listed in the Fall Schedule of Academic Classes. The procedures for application into the clinical portion of the Radiography Program are listed on page 28 of this catalog and are available in the Counseling Office.
- Prerequisite qualifications are: (a) high school graduate or GED equivalent; (b) be admitted to Delta College; (c) provide transcripts from high school and all other colleges attended; (d) completion of each of the following courses with a "C" (2.0) minimum grade; HSC 105, HSC 140, BIO 102, BIO 131 & 132 and completion, with a "C" (2.0) grade average of at least 9 credits from the remaining general education courses listed PLUS SPH 114.
- Current CPR certification (for the Professional Rescuer) must be maintained throughout enrollment in the Radiography Program.
- Prior to Program entry, you must complete observations in two participating hospital Radiology Departments (information and forms available in the Counseling Office).
- You must have a complete physical examination, including a negative TB test.
- Radiography Program courses are offered day hours only and must be taken together in the sequence shown.
- You must achieve a minimum "C" (2.0) grade in each Radiography course to be eligible to continue in and graduate from the Program. You must comply with all Radiography Program Progression and Retention Policies (copy available from the Allied Health counselor or Program faculty).
- In addition to tuition and fees and textbooks costs, you must purchase uniforms and clinic shoes; provide your transportation to clinic settings; and pay for meals, parking fees, and any medical treatment which become necessary.
- Math skills through algebra are recommended.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

REAL ESTATE

Associate in Business Studies Degree

This Program provides training in the real estate business and is designed for personnel in real estate positions of sales, broker, manager, realtor. In order to declare this curriculum and to receive the Real Estate Associate Degree, you must successfully complete the GRI courses through the Michigan Association of Realtors.

		Suggested Sequence	Sem Hrs
General Education Courses			
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PHL 203	Business Ethics	□ □ ■ ■	3
POL 103	Introduction to American Government	■ ■ ■ ■	3
SUBTOTAL			8

Business Courses

ACC 211	Principles of Accounting I	□ ■ ■ ■	4
ARC 101	Materials and Methods of Construction	■ ■ ■ □	3
*CIS 133	Introduction to Computer Information Systems	■ ■ ■ □	4
GB 143	Principles of Advertising	■ ■ ■ ■	3
GB 145	Sales	■ ■ ■ ■	3
GB 153	Introduction to Business	■ ■ ■ □	3
*GB 172	Residential Mortgage Lending	□ ■ ■ ■	2
*GB 183	Real Estate Law	□ ■ ■ ■	3
GB 243	Principles of Marketing	□ □ ■ ■	3
*OSE 151	Business Communications I	■ ■ □ □	3
*OSE 152	Business Communications II	□ □ □ □	3
+RE 150	Real Estate Fundamentals	■ ■ □ □	3
+RE 280	Real Estate Principles	□ □ ■ ■	8
# ---	Approved Electives	□ ■ ■ ■	9
SUBTOTAL			54

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Approved Electives

ACC 212	Principles of Accounting II	4
ECO 221	Principles of Economics	4
GB 251	Business Law	3
PSY 101	Applied Psychology	3
RE 130	REALTRON Computer Operation	2
RE 245	Property Management	2
RE 270	Real Estate Purchase/Closings	3
RE 271	Commercial Properties	2
RE 284	Real Estate Valuation	3
RE 285	Real Estate Appraiser	2
SPH 112	Fundamentals of Oral Communication	3
SPH 114	Interpersonal Communications	3
SPH 212	Listening	3

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

1. # Upon presentation of:

a. Copy of the grade sheet from the state exam to the Chairperson of the Business Division. Delta College will grant 3 credits for RE 150 based on prior learning experience.

b. Copy of the GRI Certificates, Delta College will grant 8 semester hours of credit in RE 280 for prior learning experience.

c. Copy of a certificate of completion for the Real Estate Valuation Specialist License (from the State of Michigan) to the Chairperson of the Business Division, Delta College will award 3 credits for RE 284, based on prior learning experience.

d. Copy of a certificate of completion for a State Licensed Real Estate Appraiser (from the State of Michigan) to the Chairperson of the Business Division, Delta College will award 2 credits for RE 285, based on prior learning experience.

2. Delta College may grant additional credits for prior learning experience as electives, upon documentation of successful completion of Michigan Real Estate Specialty Licenses/Certifications in the Real Estate field.

3. See page 85 for graduation requirements.

4. Delta College reserves the right to modify curriculum requirements.

RESIDENTIAL CONSTRUCTION

Associate in Applied Science Degree/Certificate

The Certificate Program is designed to prepare you for jobs in rough carpentry and house framing with the skills you have learned in such areas as: job specifications and drawings, building materials, use of woodworking and surveying tools, cost estimations, concrete work, and exterior finishing. Completion of this Program preempts years of apprenticeship in the construction field. You may become self-employed or find employment with a contractor or in a building supply center.

In addition to skills gained from courses completed in the Residential Construction Certificate Program, students completing the Associate degree will have learned construction techniques in interior trim, cabinet making and installation, equipment installation, and interior finishing. The Program also offers the breadth of education necessary for a successful self-employed business or lumberyard management and has the support of the home builders association.

		Suggested Sequence	Sem Hrs
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General Education Courses

ENG 111	College Composition I	■ □ □ □	3
ENG 113	Technical Writing OR		
ENG 112	College Composition II	□ ■ □ □	3
PE ---	Physical Activity Elective	■ ■ ■ ■	1
PE ---	Physical Activity Elective	■ ■ ■ ■	1
POL 103	Introduction to American Government	■ ■ ■ ■	3
PSY 101	Applied Psychology	■ ■ ■ ■	3
SUBTOTAL			14

Technical Courses

> RC 101	Construction Print Interpretation	■ □ □ □	3
>+RC 102	Building Materials	■ □ □ □	3
> RC 104	Construction Laboratory I	■ □ □ □	3
>+RC 105	Building Site Surveying	□ ■ □ □	3
> RC 106	Concrete and Foundations	□ ■ □ □	4
> RC 108	Construction Safety	□ ■ □ □	2
>+RC 109	Residential Drafting	■ □ □ □	4
>*RC 113	Carpentry Math	■ □ □ □	2
>*RC 114	Framing Square	■ □ □ □	3
> RC 200	Construction Contracting Rules and Regulations	□ □ ■ □	3
> RC 201	Rough Framing and Outside Finishing	□ □ ■ □	4
>+RC 202	Building Materials Estimation	□ □ ■ □	3
> RC 203	Construction Laboratory II	□ □ ■ □	2
RC 204	Inside Finishign and Hardware	□ □ ■ ■	3
RC 205	Cabinet Making and Millwork	□ □ ■ ■	5
RC 206	Plumbing, Heating and Electrical Equipment	□ □ ■ ■	3
>+RC 211	Elements of Structural Design	□ ■ □ □	3
SUBTOTAL			53

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 67

TOTAL CREDITS REQUIRED FOR CERTIFICATE 42

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">".

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

1. + These courses are co-listed with Architecture Technology courses and can be taken as ARC courses, i.e., RC 109 = ARC 105.

2. RC 113 may be waived if you score on the numerical skills part of ASSET recommends Algebra I (Math 107) or higher.

3. See page 85 for graduation requirements.

4. Delta College reserves the right to modify curriculum requirements.

RESPIRATORY CARE

Associate in Applied Science Degree

As a Respiratory Therapist you will be qualified to assume primary clinical responsibility for all respiratory care modalities, including responsibilities involved in the supervision of respiratory technician functions. The therapist is also capable of serving as a resource person to the physician with regard to current practices in respiratory care and to the hospital staff regarding effective and safe methods for administering respiratory care. Respiratory Therapists who have a certificate of completion from an AMA-approved therapist training program, a minimum of 62 college credits, and six months of experience following completion of the program are eligible to apply for registration by the National Board for Respiratory Care (NBRC). The registry examination consists of a written exam and clinical simulation. Applicants must pass both to be awarded the Registered Respiratory Therapist (RRT) credential.

	Suggested Sequence	Sem Hrs
General Education Courses		
*BIO 131 Anatomy & Physiology I	■ □ □ □	4
*BIO 132 Anatomy & Physiology II	■ □ □ □	4
*BIO 203 General Microbiology	□ □ ■ □	4
*ENG 111 College Composition I	■ □ □ □	3
*ENG 112 College Composition II	□ ■ □ □	3
*HSC 105 Medical Terminology	■ ■ □ □	2
*PE --- Physical Activity Elective	■ ■ ■ ■	1
*PE --- Physical Activity Elective	■ ■ ■ ■	1
*POL 103 Introduction to American Government OR		
*POL 111 American Government and Politics	■ ■ ■ ■	3/4
*RT 100 Basic Sciences for Respiratory Care	■ ■ ■ ■	2
*PEH 245 Death Education OR		
*PHL 215 Health Care Ethics OR		
*PSY 101 Applied Psychology OR		
*PSY 211 General Psychology OR		
*SOC 211 Principles of Sociology OR		
*SOC 245 Death Education OR		
*SPH 112 Fundamentals of Oral Communication	■ ■ ■ ■	3/4
SUBTOTAL		14

Application to the clinical phase of this program may be made after successfully completing ("C" or better) all courses under General Education that are preceded by a plus sign "+"; however, it is **strongly** recommended that the rest of the General Education courses be completed prior to you beginning your clinical sequence.

Clinical Course Sequence

First Semester (Fall)

*RT 111 Oxygen, Aerosol, and Humidity Therapy	2
*RT 112 Medical Gas Production, Use and Regulation	1
*RT 113 Evaluation of the Chest and Breathing: Cough and Sputum; Chest Physical Therapy	1
*RT 114 Sterilization and Asepsis and Basic RT Pharmacology	1
*RT 115 Hyperinflation Therapy and Pressure-Cycled Ventilators	2
*RT 116 Chest X-ray, Blood Gas Interpretation & Bronchoscopy	1
*RT 121 Orientation to RT as a Profession	1
*RT 126 Basic Care Modalities	4
*RT 129 Clinical Seminar I	1
SUBTOTAL	14

Second Semester (Winter)

*RT 131 Artificial Airway Care and Manual Ventilation	2
*RT 132 Adult Ventilatory Care	3
*RT 133 Pulmonary Function and Stress Testing I	2
*RT 134 Arterial Blood Gases & Chest Tube Drainage	1
*RT 146 Clinical Education II	7
*RT 149 Clinical Seminar II	1
SUBTOTAL	16

Third Semester (Spring)

*RT 235 Cardiovascular Evaluation and Monitoring	2
SUBTOTAL	2

Fourth Semester (Fall)

*RT 207 Cardiopulmonary Pathophysiology	2
*RT 211 Advanced Respiratory Physiology	3
*RT 212 Advanced Critical Care Techniques	2
*RT 214 Seminar I	1
*RT 216 Rehabilitation and Home Care I	1
*RT 226 Clinical Education III	7
*RT 229 Clinical Seminar III	1
SUBTOTAL	17

Fifth Semester (Winter)

*RT 205 Respiratory Therapy Pharmacology	3
*RT 231 Maternal and Neonatal Respiratory Care	2
*RT 232 Pathophysiology Conference	2
*RT 234 Seminar II	1
*RT 244 Optional Rotation/Special Project	1
*RT 246 Comprehensive Clinical Education	8
SUBTOTAL	17

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 96

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

- Prior to enrolling in BIO 131, you must either pass the BIO 130 challenge exam or successfully complete BIO 130 (Introductory Chemistry and Cell Biology). The content of the challenge exam reflects those areas of study usually found in high school biology and chemistry. A copy of the objectives being tested is available to review in the Counseling Center.
- A maximum of 15 students will be accepted each Fall Semester for Respiratory Care courses from qualified students who have been assigned a "semester and year of validation." You will be placed on this list only **after** successfully completing the prerequisite qualifications and submitting a "Validation Application for Health Clinical Program" to the Records and Registration Office. The procedures for application into the Respiratory Care Program are on page 28 of this catalog and are available in the Counseling Office.
- Prerequisite qualifications are: (a) high school graduate or GED equivalent (b) be admitted to Delta College; (c) provide transcripts from high school and all other colleges attended; and (d) completion with a "C" (2.0) minimum grade in each: RT 100, HSC 105, BIO 131 & 132, BIO 203.
- Prior to enrollment in RT 100, you must have good basic algebra skills. You are advised to take MTH 107 if your algebra skills are weak.
- After you receive notification of acceptance for the Fall Semester, you must have a complete physical examination including a negative TB test.
- RT courses are offered day hours only and generally must be taken together in the sequence shown. You must achieve a minimum "C" (2.0) grade in each RT course to be eligible to continue in the Program.
- In addition to tuition and textbook costs, you must purchase a laboratory coat, provide your own transportation to clinical settings (plus possible hospital parking charges), and purchase three Self-Assessment Exams (total cost approximately \$100) during the final semester in the Program.
- Admission to and continuance in the Program is contingent upon your compliance with all policies contained in the Respiratory Care Student Handbook.
- If you have prior respiratory therapy work experience, you may be eligible to waive or receive equivalent credit for some RT courses.
- Current certification in Cardiopulmonary Resuscitation (American Red Cross) or Basic Cardiac Life Support (American Heart Association) is required. BCLS certifications is preferred. Certification can be received in HSC 140, PEH 168, and PEH 169, through the American Red Cross or through the American Heart Association.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

SKILLED TRADES

OPTIONS:

CARPENTER	PIPEFITTER
ELECTRICIAN	PLUMBING-PIPEFITTER
JOBGING MOLDER	STATIONARY BOILER ENGR.
MACHINE REPAIR	TINSMITH
MILLWRIGHT	TOO/DIEMAKER
PATTERN MAKER	TOOL HARDNER

Associate in Applied Science Degree

As an apprentice, you may apply your related training towards an Associate in Applied Science Degree. In addition to the degree requirements listed below, the following requirements must also be met: 1. Successful completion of all courses listed in a specific related training program (39-45 credits). 2. Successful completion of appropriate supportive study elective courses. Supportive electives are courses taken to fit your individual needs. Prior academic course work may be acceptable. Assistance in selecting electives is available from a Delta College counselor familiar with technical career programs. 3. Receipt of a journeyman card or equivalent trade experience.

	Suggested Sequence	Sem Hrs
General Education Courses		
ENG 111 College Composition I	□ □ □	3
ENG 112 College Composition II OR		
ENG 113 Technical Writing OR		
OSE 151 Business Communications I	□ □ □	3
PE --- Physical Activity Elective	□ □ □	1
PE --- Physical Activity Elective	□ □ □	1
POL 103 Introduction to American Government	□ □ □	3
# --- --- Supportive Electives	□ □ □	9/18
SUBTOTAL		20/29

Related Training Options:

(See page 72 for listing of specific courses for each program)

Carpenter (Building Trades)	■ ■ □ □	33
Electrician (Industrial Carpenter)	■ ■ □ □	39
Jobbing Molder	■ ■ □ □	38
Machine Repair	■ ■ □ □	40
Millwright	■ ■ □ □	38
Pattern Maker	■ ■ □ □	42
Pipefitter (Industrial Maintenance)	■ ■ □ □	40
Plumber - Pipefitter	■ ■ □ □	39
Stationary Boiler Engineering	■ ■ □ □	41
Tinsmith	■ ■ □ □	40
Tool/Die Maker	■ ■ □ □	39
Tool Hardner	■ ■ □ □	41

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

Suggested Supportive Electives

Economics Courses (ECN)
Electronic Engineering Technology Courses (EET)
General Management Courses (GB)
Industrial Supervision Courses (IS)
Mechanical Technology Courses (MT)
Psychology Courses (PSY)

NOTATIONS:

- These programs are representative of the typical trade-related instruction programs Delta College offers in conjunction with area employers; however, employers are not restricted to just these programs, and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Related Instruction Program should call the Skilled Trades Program Office at (517) 686-9438.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

STENOGRAPHY

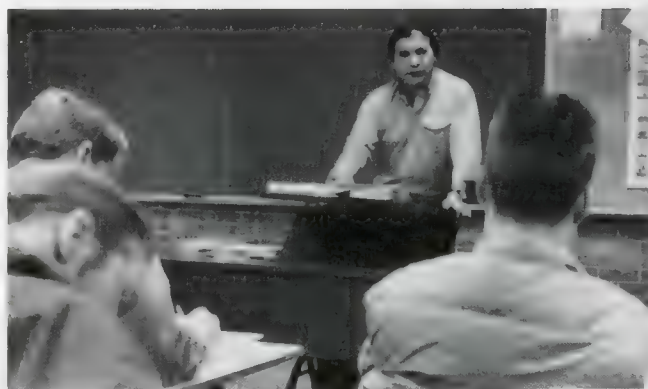
Certificate Program

Stenographers take dictation and then transcribe their notes on a microcomputer and/or terminal. Most general stenographers will also do other office tasks such as filing, answering telephones, and operating some office machines. Among the job opportunities to be found are entry-level positions such as receptionist, transcribing machine operator, stenographer, secretarial assistant, correspondence clerk.

	Suggested Sequence	Sem Hrs
General Education Courses		
GB 153 Introduction to Business	■ ■	3
OSE 145 Intergrated Office Systems	■ □	4
*OSE 151 Business Communications I	■ ■	3
OSE 155 Editing	■ ■	2
OSE 157 Filing	■ ■	2
OSE 161 Alphabetic Shorthand I	■ □	4
OSE 162 Alphabetic Shorthand II	□ ■	3
OSE 171 Keyboarding II: Format OR		
*OSE 172 Keyboarding III: Intermediate	■ □	3
*OSE 172 Keyboarding III: Intermediate OR		
*OSE 273 Keyboarding IV: Advanced	□ ■	3
OSE 175 Machine Calculation	■ ■	1
*OSE 274 Machine Transcription	□ ■	2
PSY 101 Applied Psychology OR		
SPH 114 Interpersonal Communications	■ ■	3
TOTAL CREDITS REQUIRED FOR CERTIFICATE		33

NOTATIONS:

- * A "C" (2.0) minimum grade is required in each asterisked course.
- Credit by examination is available for OSE 151, 155, 157, 175 and 274 (a testing fee is required).
 - Students entering with equivalent skills may waive OSE 161, 171, 172; however, a minimum of 32 credits are required for a certificate.
 - Typewritten assignments are required for OSE 151 Business Communications I.
 - A general knowledge of math is required for OSE 175 Machine Calculation.
 - OSE 101 WordPerfect Basics is a prerequisite for OSE 172, 273, and 274 unless you have completed OSE 171.
 - See page 85 for graduation requirements.
 - Delta College reserves the right to modify curriculum requirements.



SURGICAL TECHNOLOGY

Associate in Applied Science Degree/Certificate

The Surgical Technologist's primary function is to provide a safe, therapeutically-effective environment for the surgical patient by assisting the surgeon and performing related services in the operating room. This program is accredited by CAHEA and graduates will be eligible to sit for the National Certifying Exam.

	Suggested Sequence	Sem Hrs
General Education Courses		
>*BIO 131 Anatomy and Physiology I	■ □ □ □	4
>*BIO 132 Anatomy and Physiology II	□ ■ □ □	4
>*BIO 203 General Microbiology	□ □ ■ □	4
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II	□ ■ □ □	3
>*HSC 105 Medical Terminology	■ ■ □ □	2
>*HSC 140 Basic Medical Emergencies	■ ■ ■ □	2
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government OR		
POL 111 American Government and Politics	■ ■ ■ ■	3/4
>*PSY 101 Applied Psychology OR		
>*PSY 211 General Psychology OR		
>*SOC 211 Principles of Sociology OR		
>*SOC 275 Sociology of Stress	■ ■ ■ ■	3/4
>*ST 100 Introduction to Health Care Service	□ □ □ □	3
SUBTOTAL		33/35

Application to the clinical phase of this program may be made after successfully completing with a "C" or better all courses under General Education that are preceded by a plus sign "+".

Clinical Courses

First Semester (Fall)

>*ST 107 Pharmacology in the Operating Room	2
>*ST 110 The Surgical Patient	2
>*ST 120 Fundamentals of Surgical Technology	6
>*ST 130 Surgical Anatomy	4
>*ST 140 Operative Procedures	4
SUBTOTAL	18

First Semester (Winter)

>*ST 200 Clinical Externship	12
>*ST 201 Operating Room Seminar	3
SUBTOTAL	15

TOTAL CLINICAL 33

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 66

TOTAL CREDITS REQUIRED FOR CERTIFICATE 55

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">" (55 credits).

NOTATIONS:

* A "C" (2.0) minimum grade is required in each asterisked course.

- As an applicant, you must be a high school graduate or submit a GED equivalency certificate.
- Math skills through MTH 107 Algebra I are a must for you in this program.
- Prior to enrolling in BIO 131 you must either pass the BIO 130 challenge exam or successfully complete BIO 130 (Introductory Chemistry and Cell Biology). The content of the challenge exam reflects those areas of study usually found in high school biology and chemistry. A copy of the objectives being tested is available to you for review in the Counseling Center.



- Application:** The procedures for application into the clinical portion of the Surgical Technology Program are on page 28 of this catalog and are available in the Counseling Center.
- PRIOR** to beginning clinical, you **MUST** have CPR certification, which includes the Two Person Rescuer Technique. CPR certification must be renewed annually.
- Once accepted, you must have a negative TB skin test and/or chest X-ray and a current physical examination which confirms you are free from communicable disease and capable of performing the duties necessary for the safe care of patients. It is highly recommended that you obtain Hepatitis B vaccination.
- You must achieve a minimum of "C" (2.0) grade in each clinical course to be eligible to continue in this program. These courses must be taken in the sequence shown and enrollment in these courses is by permission only.
- When in the clinical phase of the program, you must have transportation available.
- You are responsible for paying the cost of any medical care which might be necessary if you are injured or become ill as a result of clinical practice activities. The College does not provide insurance coverage for such situations.
- See page 85 for graduation requirements.
- Delta College reserves the right to modify curriculum requirements.

WATER/WASTEWATER TREATMENT TECHNOLOGY

Associate in Applied Science Degree

The vast majority of water and wastewater treatment plant operators work for local governments. Some work for private water supply and sanitary services companies, many of which provide operation and management services to local governments on a contract basis.

Graduation from this program will prepare you to make application to write the Wastewater Class "D" Operator Certification examination and the entry-level waterworks certification examinations.

	Suggested Sequence	Sem Hrs
General Education Courses		
BIO 115 Environmental Science	■ ■ ■ □	2
CHM 111 General and Inorganic Chemistry I	■ □ □ □	4
CHM 112 General and Inorganic Chemistry II	□ ■ □ □	4
CIS 133 Introduction to Computer Systems OR		
CPS 171 Computer Science I	■ ■ □ □	4/3
ENG 111 College Composition I	■ □ □ □	3
ENG 113 Technical Writing OR		
ENG 112 College Composition II	□ ■ □ □	3
MTH 111 Applied Algebra OR		
MTH 119 Intermediate Algebra	■ ■ □ □	4
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
POL 103 Introduction to American Government OR		
POL 111 American Government and Politics	■ ■ ■ ■	3/4
SUBTOTAL		29/30

Technical Courses

WWT 110 Water Treatment	■ □ □ □	3
WWT 112 Waste Water Treatment	■ □ □ □	3
WWT 211 Water Chemistry I	□ ■ □ □	4
WWT 212 Water Chemistry II	□ □ □ □	4
WWT 220 Microbiology of Water	□ □ □ ■	4
WWT 230 Water/Waste Utility Management	□ □ □ ■	3
WWT 240 Applied Hydraulics	□ □ □ ■	3
WWT 244 Water/WasteWater Utility Equipment Maintenance	□ □ ■ ■	3
WWT 246 Water/WasteWater Utility Electrical Maintenance	□ □ ■ ■	2
# WWT 265 Practicum in Water/WasteWater Treatment	□ □ □ ■	4
SUBTOTAL		33

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 62

NOTATIONS:

1. # Credit hours are subject to change.
2. See page 85 for graduation requirements.
3. Delta College reserves the right to modify curriculum requirements.

WELDING TECHNOLOGY

Associate in Applied Science Degree/Certificate

The Associate degree program combines specialized welding training with related technical and general education courses. The Program sets the educational requirements necessary to pursue a Baccalaureate degree in a variety of welding-related careers. You should contact a Counselor or the welding staff for career or transfer information. The Welding Specialist Program meets your needs if you intend to seek immediate employment in the welding field or are presently employed in the welding field and seeking advancement. The program provides specialized training in welding theory and application, as well as an understanding of welding standards and levels of acceptability of American industry. The program also provides a foundation if you are interested in pursuing an Associate or Baccalaureate degree in welding technology.

	Suggested Sequence	Sem Hrs
General Education Courses		
ENG 111 College Composition I	■ □ □ □	3
ENG 112 College Composition II	□ ■ □ □	3
MTH 111 Applied Algebra OR		
MTH 119 Intermediate Algebra	■ □ □ □	4
MTH 113 Applied Trigonometry OR		
MTH 121 Plane Trigonometry	□ ■ □ □	4/3
PE --- Physical Activity Elective	■ ■ ■ ■	1
PE --- Physical Activity Elective	■ ■ ■ ■	1
PHY 101 Applied Physics	■ ■ □ □	4
POL 103 Introduction to American Government	■ ■ ■ ■	3
PSY 101 Applied Psychology OR		
SPH 112 Fundamentals of Oral Communication	■ ■ ■ ■	3
SUBTOTAL		25

Technical Courses

MFG 111 Manufacturing Process	■ ■ ■ ■	3
>WELD 103 Fuel Gas Welding	■ ■ ■ ■	3
>WELD 104 Introduction to Shielded Metal Arc Welding	■ ■ □ □	3
>WELD 110 Math for Welders and Fabricators	■ □ □ □	5
>WELD 111 Welding Metallurgy	■ ■ ■ □	3
>WELD 114 Shielded Metal Arc Structural and Tank	□ ■ □ □	6
>WELD 115 Gas Metal Arc Plate	■ □ □ □	2
>WELD 120 Beginning Industrial Blueprint Reading	■ ■ □ □	2
>WELD 122 Blueprint Reading for Welders and Fabricators	□ □ ■ ■	2
>WELD 219 Shielded Metal Arc Qualifying Plate	□ □ ■ □	2
>WELD 224 Shielded Metal Arc Pipe	□ □ ■ □	6
>WELD 225 Gas Metal Arc Pipe	□ ■ □ □	2
>WELD 226 Gas Tungsten Arc Welding	□ ■ ■ □	5
SUBTOTAL		44

Additional Technical Courses Required for Certificate Only

>WELD 112 Pipefitters Handbook	□ □ ■ ■	3
>WELD 229 Shielded Metal Arc Qualifying Pipe	□ □ ■ ■	2
>WELD 239 GMAW/GTAW Qualifying	□ □ □ ■	2
SUBTOTAL		7

TOTAL CREDITS REQUIRED FOR ASSOCIATE DEGREE 69

TOTAL CREDITS REQUIRED FOR CERTIFICATE 48

> **CERTIFICATE OPTION** - A Certificate will be awarded when you successfully complete courses preceded by a greater than sign ">" (48 credits).

NOTATIONS:

1. For complete program description and details, please call the Welding Center at (517) 496-3368 or 496-3373.
2. WELD courses are taught at the Welding Center, Midland, Michigan.
3. See page 85 for graduation requirements.
4. Delta College reserves the right to modify curriculum requirements.

Non-Degree Programs and Activities

Program/Activity	Academic Credit	Non-Academic Credit	Division/Department	Phone Number
Apprenticeship Trade Related Instruction:			Corporate Services	686-9438
Carpenter (Building Trades)	X		Corporate Services	686-9438
Electrician (Industrial)	X		Corporate Services	686-9438
Jobbing Molder	X		Corporate Services	686-9438
Machine Repair	X		Corporate Services	686-9438
Millwright	X		Corporate Services	686-9438
Pattern Maker	X		Corporate Services	686-9438
Pipefitter (Industrial Maintenance)	X		Corporate Services	686-9438
Plumber-Pipefitter	X		Corporate Services	686-9438
Stationary Boiler Engineering	X		Corporate Services	686-9438
Tinsmith	X		Corporate Services	686-9438
Tool/Die Maker	X		Corporate Services	686-9438
Tool Hardener	X		Corporate Services	686-9438
Cake Design		X	Community Services	686-9417
Computer Applications Professional		X	Community Services	686-9420
Corrections Officer	X		Social Science	686-9093
Draperies & Curtains		X	Community Services	686-9417
Electrical & Plumbing		X	Community Services	686-9417
Emergency Medical Technician	X		Allied Health	686-9093
Floral Design		X	Community Services	686-9417
Gifted/Talented & Children's Programs		X	Community Services	686-9091
Graphic Arts & Photography		X	Community Services	686-9515
Health Unit Coordinator/Ward Clerk		X	Community Services	686-9415
Interior Decoration		X	Community Services	686-9417
Liberal Arts		X	Community Services	686-9414
Life Enhancement Institute		X	Community Services	686-9471
LPN Refresher		X	Community Services	686-9415
Management		X	Community Services	686-9414
Medical Insurance/Billing		X	Community Services	686-9415
Minority Managers Forum		X	Community Services	686-9414
Personal Computers Business Applications		X	Corporate Services	835-6421
Phlebotomist Program		X	Community Services	686-9415
Quality & Productivity Improvement		X	Corporate Services	754-8922
Real Estate		X	Community Services	686-9420
Refrigeration, Air Conditioning, Heating Service Tech. Prep		X	Community Services	686-9420
RN Refresher		X	Community Services	686-9415
Silversmithing & Jewelry-Making		X	Community Services	686-9414
Small Business Ownership		X	Community Services	686-9420
Stationary Boiler Operator		X	Community Services	686-9420
Surgical First Assistant	X		Allied Health	686-9093
Teacher Assistant/Paraprofessional		X	Community Services	686-9416
Travel Agent Training Program		X	Community Services	686-9416
Upholstery			Community Services	686-9417

• Midland/Auburn Callers - Please call 662-4431 and the last four numbers of the above listed numbers

• You will find more information on these programs and activities in either the Schedule of Academic Classes booklet or Community Services Schedule of Classes. Both are published each semester (three times per year).

Delta College offers a variety of courses and programs designed to meet the needs of the diverse communities it serves through credit and non-credit courses. These courses and programs do not lead to a degree or Certificate, but are designed to fill a need identified by an individual or groups of individuals.

Delta views education as a life-long process that takes place in a wide variety of environments. These courses and programs are offered throughout the community college district wherever the need exists, adequate facilities are available, and enrollment justifies their being offered. Courses are taught on the Campus, in public schools, in industrial plants, in commercial office buildings, at Delta College Centers and at other suitable locations. The length and frequency of courses differ and are determined by the type and objectives of each course.

The College maintains close liaison with, and is assisted by, program advisory committees; professional, civic and church organizations; governmental agencies; business; the labor industry; and other groups in determining needs and providing education and training to the community.

The credit programs and courses are offered through our 10 academic divisions and Corporate Services. Non-credit programs are primarily offered through Community Services and Corporate Services.

The credit courses are included in the Schedule of Academic Classes booklet or Skilled Trades Schedule each semester. The non-credit programs and courses are listed in the Community Services Schedule of Classes each semester.

Programs and Activities (Non-Academic Credit)

Cake Design

The basic techniques of creating all-occasion cakes to delight customers, family, and friends will be the focus of Cake Design I. More complicated flowers and borders are demonstrated and practiced in the advanced classes.

Computer Applications Professional

A computer program of study from beginning to advanced levels. Choose extensive or limited training on IBM computers.

- * Free Introductory Seminar
- * Computer Literacy
- * MS-DOS Concepts
- * WordPerfect
- * Desktop Publishing
- * Introduction to the Macintosh
- * Speedreading
- * One-to-One private tutoring in English, business math, writing, spelling
- * Lotus 1-2-3
- * Excel
- * Microsoft Windows
- * Microsoft Word
- * Toolbook
- * Microsoft Works
- * Business Writing

Draperies and Curtains

Master the art of making lined or unlined draperies or country curtains. Instruction on measuring windows, fabric selection, hardware, and construction will be given.

Electrical & Plumbing

Learn the applied fields of electricity and plumbing at the basic levels.

Floral Design

Techniques and procedures of floral design will provide entry-level job skills. Both demonstration and hands-on experience with fresh and silk flowers.

Gifted/Talented & Children's Programs (GTCP)

The various programs offered via GTCP strive to meet the individual academic, social, and emotional needs of children through a variety of programs, events, and services. Fantastics is an enrichment program that expands, enhances, and extends learning opportunities for children ages four to 14 years. GRASP is an at-home 10-week correspondence program designed to maintain reading and math skills during the long summer vacation for students in first through 8th grades. Youth Band Camp is a quality summer band camp experience for students. IQ and ability assessment testing are offered by appointment. A variety of one-day events for parents, students, and teachers is also offered.

Graphic Arts & Photography

Series of related courses in graphic arts.

- * Alphabets/Calligraphy
- * Color Theory
- * Desktop Publishing
- * Drawing
- * Sign Painting
- * Photography

Health Unit Coordinator/Ward Clerk

Prepares you for employment in a health care facility. The Health Unit Coordinator (HUC) is a highly respected member of the health care team. You assume a great deal of responsibility in providing non-direct patient care. Other titles by which the HUC may be known are Ward Clerk or Unit Secretary. As an integral part of the health care team, the HUC performs clerical duties, acts as a receptionist for a health unit, and transcribes medication orders.

Interior Decoration

Teaches interior design skills and may provide entry-level job skills. You will learn the basics of design; how to choose floor and wall covering, lighting fixtures, and accessories; and how to arrange furniture.

Liberal Arts

Liberals Arts is dedicated to the concept of life-long learning, providing courses for adults in studio arts, art history, computers, writing, language, history, culture, new age topics, tours, Kaplan Test preparation, music, air trips, dance, fitness, recreation, dog obedience training, horticulture, and other general interests.

Life Enhancement Institute

The Life Enhancement Institute is a program that encompasses a variety of courses and activities designed to enrich and enhance the lifestyles of citizens 50 years of age and older. Courses and activities include sewing, craft classes, senior swim, 55/Alive driving refresher, financial planning, fitness, and more.

LPN Refresher

This course provides the opportunity for LPN's licensed in Michigan and interested in returning to the nursing field to update theoretical knowledge, as well as to acquire new skills for direct patient care. A comprehensive pharmacology course is included in the theory portion of the course.

Management

Pursue a career in management in the American Management Association Extension Institute/Delta College.

Medical Insurances/Billing I

Learn medical insurance billing concepts, diagnostic and procedure coding, basic insurance concepts and terminology used by the health insurance carriers, and completion of claim forms for commercial insurance companies.

Minority Managers Forum

The following are the objectives of the Minority Managers Forum:

- Increase participants' awareness of issues, concerns, and practices that impact minority managers.
- Recognize the importance of networking and learn some techniques to network successfully.
- Become cognizant of the process and organizational building blocks for managing diversity.
- Gain knowledge and/or develop skills pertinent in career planning and lateral and upward mobility.
- Provide a forum whereby talents and skills of minority managers can be recognized and utilized.
- Provide professional and personal development opportunities.

Several programs each year are developed to accomplish these objectives.

Personal Computer Business Applications - IBM and Compatible

Our training for business and industry includes Intro to Windows, Word for Windows, Excel for Windows, Lotus 1-2-3 (intro, intermediate, and macros for a variety of versions), WordPerfect (levels I and II), dBase IV, Paradox, Quattro Pro, Intro to the PC, Intro to DOS, as well as consulting in a variety of areas.

Phlebotomist Program

The Phlebotomy course is designed to prepare you to perform skin and venipuncture in accordance with procedures established by the National Committee for Clinical Laboratory Standards.

Quality & Productivity Improvement

Some of our offerings in this area for training and consulting activities include SPC, Problem Solving Tools, Quality Principles, Design of Experiments, Customer Satisfaction, Just-In-Time Techniques, Targets for Excellence Implementation, and Continuous Improvement Programs.

Real Estate

Prepare for a career in real estate by beginning with Real Estate Fundamentals, a pre-sales license examination course required and approved by the State of Michigan. Other related courses are also available.

Refrigeration, Air Conditioning, Heating Service Technician Preparation

This course prepares you for entry-level employment by teaching the fundamentals of servicing special products in domestic refrigeration and heating systems.

RN Refresher

A comprehensive review for Registered Nurses in preparation for returning to nursing employment. This course provides an opportunity to review and gain nursing knowledge and skill for direct patient care and leadership roles. Class and hospital/clinical experience are included.

Silversmithing and Jewelry-Making

Learn the basics of jewelry-making and silversmithing and develop skills to start your own business or find employment with an established jeweler. Courses may be taken individually or as a series.

- Silversmithing: techniques including annealing, soldering, filing and sawing, forming a bezel, fusing metals, various surface treatments, and polishing.
- Gemology: learn the characteristics of various gemstones and how to judge quality and value; follow current trends among buyers and collectors.
- Jewelry-Making/Lapidary: gemstone cutting, finishing and mounting; cutting sections from slabs, shaping them on grinding wheels, and polishing and mounting them in standard fittings; and assembling a tool kit.



"I Decided on Delta!"

"I wanted to get my degree so I could get a good-paying, stable job. Delta College was the best place to start."

Sylvia Emenpour
Saginaw

Small Business Ownership

Learn in the Entrepreneurship Series the hard and helpful realities which assist those who want to own their own businesses.

Stationary Boiler Operator

Designed to train you to be employed as a stationary boiler fireman to look after boilers and mechanical equipment in public and private buildings and to assist you to obtain a boiler operator's license as well as stationary engineer's license.

Teacher Assistant/Paraprofessional Program

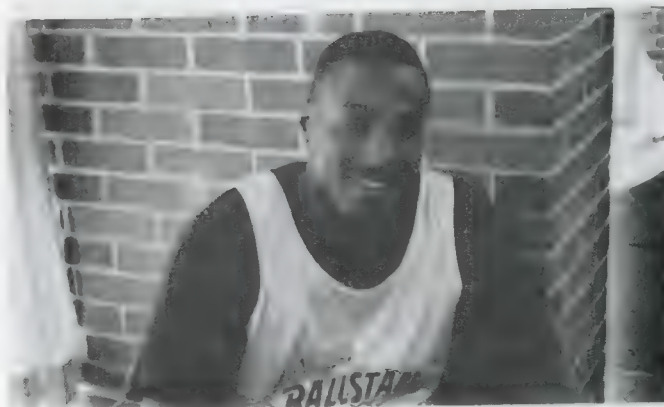
For those who want to work with or who are already working with children in an educational setting as an assistant. Especially helpful to currently-employed assistants who want to upgrade skills.

Travel Agent Training Program

Includes all phases of the travel business: ticketing, cruises, air travel, tour, basic geography and selling techniques.

Upholstery

Develop upholstery skills for your own employment or for employment in an upholstery business. Learn the upholstery process under the supervision of a skilled upholsterer.



"I Decided on Delta!"

"I chose Delta because of its high quality architecture program and the respectability of its transfer program."

Felix Little
Saginaw

Programs and Activities (Academic Credit)

Apprenticeship Trade Related Instruction Programs

Delta College offers required Trade Related Instruction Programs for apprentices and up-graders in the industrial trades, building trades, and maintenance trades from the tri-county and surrounding areas. Trade Related Instruction Programs are designed with the cooperation of industry and provide the instruction to strengthen the theoretical knowledge in each trade area. The combination of related instruction and on-the-job experience is essential in order to provide a complete program to train skilled personnel for the trades. Courses are offered both day and evening to accommodate shift assignments. The scheduling and registration for courses is the responsibility of the Skilled Trades Department; therefore, any inquiry about a particular class should be made **directly** to them by phoning (517) 686-9438 or 686-9437.

Since many company apprenticeship programs are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, it is imperative that the registration for these courses be coordinated by the local plant apprenticeship coordinator and the College Skilled Trades Department. All Trade Related Instruction is subject to change per agreement with the participating employer and Delta College.

The following programs are representative of typical Trade Related Instruction Programs Delta College offers in conjunction with area employers. Employers, however, are not restricted to just these programs and many elect to modify our programs to meet their specific needs. Employers desiring more information on Delta's Trade Related Instruction Program should call the Skilled Trades Program Manager at (517) 686-9438 or 686-9437.

Also see page 66 for Associate in Applied Science Degree requirements for Skilled Trades Programs.

Trade Related Instruction Programs:

Carpenter (Building Trades)

Course No.	Course Title	Credit Hrs	Clock Hrs
SKCT111	Construction Print Interpretation	3	45
SKCT102	Building Materials	3	45
SKCT113	Carpentry Math & Framing Sq.	2	30
SKCT114	Framing Square	3	45
SKCT105	Building Site Surveying	3	45
SKCT106	Concrete and Foundations	4	75
SKCT201	Rough & Outside Finishing Framing	4	90
SKCT204	Inside Finishing and Hardware	3	75
SKCT205	Cabinet Making and Millwork	5	105
SKWL103	Fuel Gas Welding and Cutting	3	45
Totals		33	600

Electrician (Industrial)

Course No.	Course Title	Credit Hrs	Clock Hrs
SKMA111	Applied Integrated Electrical Math. I	3	45
SKMA112	Applied Integrated Electrical Math. II	5	75
SKMA113	Applied Integrated Electrical Math. III	3	45
SKEL111	Conventional Controls	3	45
SKEL101	Basic Electronics	6	90
SKEL102	Industrial Electronics	4	60
SKEL131	AC/DC Machinery	3	45
SKEL121	Advanced Controls I	5	75
SKEL122	Advanced Controls II	4	60
SKEL141	Electrical Shop	3	45
Totals		39	585

Jobbing Molder

Course No.	Course Title	Credit Hrs	Clock Hrs
SKDR101	Combined Drawing & Blueprint Rdg	4	60
SKDR111	Drawing II	3	45
SKDR131	Pattern Design	3	45
SKMA101	Apprentice Mathematics I	2	30
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT111	Metals	3	45
SKMT231	Fundamentals of Foundry Technology	3	45
SKMT232	Foundry II	3	45
SKPH101	Applied Physics	4	45
SKTR181	Machine Tools I	2	60
SKTR182	Machine Tools II	3	45
Totals		38	570

Machine Repair

Course No.	Course Title	Credit Hrs	Clock Hrs
SKDR101	Sketching & Blueprint Rdg	4	60
SKDR111	Drawing II	3	45
SKMA101	Apprentice Mathematics I	2	30
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT101	Hydraulics and Pneumatics I	3	45
SKMT102	Hydraulics and Pneumatics II	3	45
SKMT111	Metals	3	45
SKMT161	Industrial Rigging and Safety	2	30
SKTR181	Machine Tools I	2	30
SKPH 101	Applied Physics	4	60
SKTR182	Machine Tools II OR		
SKTR183	Machinery Handbook	3	45
SKTR260	Computer Numerical Controls I	3	45
Totals		40	600

Millwright

Course No.	Course Title	Credit Hrs	Clock Hrs
SKCT101	Industrial Millwright Procedures	3	45
SKDR101	Sketching and Blueprint Reading	4	60
SKMA101	Apprentice Mathematics I	2	30
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT101	Hydraulics and Pneumatics I	3	45
SKMT102	Hydraulics and Pneumatics II	3	45
SKMT151	Power Transmission	3	45
SKMT161	Industrial Rigging & Safety	2	30
SKMT171	Sheetmetal I	3	45
SKMT172	Sheetmetal III OR		
SKPH101	Applied Physics	4	60
SKWL103	Fuel Gas Welding & Cutting	3	45
SKWL104	Intro. to Shielded Metal Arc Welding	3	45
Totals		41	615

Pattern Maker

Course No.	Course Title	Credit Hrs	Clock Hrs
SKCA114	Autocad Introduction	2	30
SKDR101	Sketching & Blueprint Rdg	4	60
SKDR111	Drawing II	3	45
SKDR131	Pattern Design	3	45
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT231	Fundamentals of Foundry Training	3	45
SKTR183	Machinery Handbook	3	45
SKTR260	Computer Numerical Controls I	3	45
SKTR261	Computer Numerical Controls II	3	45
Elective Courses (Select 10 credit hours)			
SKMT 111	Metals	3	45
SKTR 181	Machine Tools I	2	30
SKTR 182	Machine Tools II	3	45
SKPH 101	Applied Physics	4	60
SKDR 121	Descriptive Geometry	3	45
Totals		42	630

Pipefitter (Industrial Maintenance)

Course No.	Course Title	Credit Hrs	...Clock Hrs
SKDR101	Sketching and Blueprint Reading	4	60
SKMA101	Apprentice Mathematics I	2	30
SKDR141	Pipe and Tube Isometrics	3	45
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKPH101	Applied Physics	4	60
SKPT101	Industrial Piping	4	60
SKWL103	Fuel Gas Welding	3	45
SKPT106	Pipefitters Handbook	3	45
SKPT121	Refrigeration and Air Conditioning	3	45
SKMT101	Hydraulics and Pneumatics I	3	45
SKMT102	Hydraulics and Pneumatics II	3	45
Totals		40	600

Plumber-Pipefitter

Course No.	Course Title	Credit Hrs	...Clock Hrs
SKDR101	Sketching & Blueprint Reading	4	60
SKMA101	Apprentice Mathematics I	2	30
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT101	Hydraulics and Pneumatics I	3	45
SKMT171	Sheetmetal	2	30
SKPH101	Applied Physics	4	60
SKPT101	Industrial Piping	4	60
SKPT106	Pipefitters Handbook	3	45
SKPT121	Refrigeration & Air Conditioning	3	45
SKWL103	Fuel Gas Welding & Cutting	3	45
SKWL104	Intro. to Shielded Metal Arc Welding	3	45
Totals		39	585

Stationary Boiler Engineering

Course No.	Course Title	Credit Hrs	...Clock Hrs
SKDR101	Sketching and Blueprint Reading	4	60
SKDR141	Pipe and Tube Isometrics	3	45
SKMA101	Apprentice Mathematics I	2	30
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT161	Industrial Rigging and Safety	2	30
SKPT106	Pipefitters Handbook	3	45
SKPT111	Stationary Boiler Engineering I	2	30
SKPT112	Stationary Boiler Engineering II	2	30
SKPT113	Stationary Boiler Engineering III	2	30
SKPT114	Stationary Boiler Engineering IV	3	45
SKPT121	Refrigeration & Air Cond.	3	45
SKWL103	Fuel Gas Welding and Cutting	3	45
SKWL104	Intro. to Shielded Metal Arc Welding	3	45
Totals		40	600

Tinsmith

Course No.	Course Title	Credit Hrs	...Clock Hrs
SKDR101	Sketching & Blueprint Reading	4	60
SKDR121	Descriptive Geometry	3	45
SKMA101	Apprentice Mathematics I	2	30
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT161	Industrial Rigging & Safety	2	30
SKMT171	Sheetmetal I	2	30
SKMT172	Sheetmetal II	3	45
SKMT173	Sheetmetal III	3	45
SKPH101	Applied Physics	4	60
SKPT126	Air Movement & Duct Design	3	45
SKWL103	Fuel Gas Welding	3	45
SKWL104	Intro. to Shielded Metal Arc Welding	3	45
Totals		40	600

Tool/Die Maker

Course No.	Course Title	Credit Hrs	...Clock Hrs
SKDR101	Sketching & Blueprint Reading	4	60
SKDR111	Drawing II	3	45
SKDR130	Tool & Die Design	4	60
SKMA101	Apprentice Mathematics I	2	30
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT101	Hydraulics and Pneumatics I	3	45
SKMT111	Metals	3	45
SKPH101	Applied Physics	4	60
SKTR181	Machine Tool I	2	30
SKTR182	Machine Tool II	3	45
SKTR183	Machinery Handbook	3	45
Totals		39	585

Tool Hardener

Course No.	Course Title	Credit Hrs	...Clock Hrs
SKDR101	Sketching & Blueprint Reading	4	60
SKDR111	Drawing II	3	45
SKDR130	Tool & Die Design	4	60
SKMA101	Apprentice Mathematics I	2	30
SKMA102	Mathematics II	4	60
SKMA103	Mathematics III	4	60
SKMT111	Metals	3	45
SKMT112	Ferrous Heat Treatment	2	30
SKPH101	Applied Physics	4	60
SKTR181	Machine Tools I	2	30
SKTR182	Machine Tools II	3	45
SKWL103	Fuel Gas & Cutting	3	45
SKWL104	Intro. to Shielded Metal Arc Welding	3	45
Totals		41	615



Corrections Officer Academic Program Information

All Michigan State Corrections Officers hired are required to have 15 semester or 23 quarter hour college credits earned through one of the following options:

Option I. Five specific corrections courses as determined by the Correctional Officer's Training Council. Each course must be passed with a minimum of a "C" grade (2.0 GPA on a 4.0 scale). At Delta, these courses are CJ230, CJ232, CJ233, CJ235, CJ238 and are described in Section VI, Course Descriptions.

Option II. Fifteen credits in the following areas: Psychology, Sociology, Corrections, Criminal Justice, Guidance and Counseling, Educational Psychology, Family Relations. **Only the earning of college credit is required** in this option; therefore, the **"C" grade minimum is NOT required**.

Note: Fulfillment of OPTION I provides priority on the Department of Corrections employment list as compared to fulfillment of OPTION II, and employment will ONLY become available for qualified candidates who completed OPTION II after all the qualified candidates with OPTION I were considered. Since the need for Corrections Officers tends to fluctuate, it is recommended you contact the State regarding employment opportunities using OPTION II.

Course Offerings: It is anticipated that at least one section of each of the five courses will be offered in either the Fall and Winter Semesters. Spring/Summer Semester offerings will depend on need and instructor availability. The courses are offered in the evening only, with some Saturday offerings.

Upon successful completion of the five courses, you will receive a certificate of completion, and this should not be confused with completing a certificate program at Delta.

Emergency Medical Technician Academic Program

The minimum requirements to be licensed as a Michigan EMT are the successful completion ("C"/2.0) grade or higher in EMT 101, EMT 102 and EMT 108, and the passing of the State of Michigan Basic EMT Exam (both written and practical portions). Employability with only a Basic EMT license is extremely limited and most EMT's in the Saginaw Valley area hold an Advanced EMT/Paramedic Michigan license.

Before you are admitted to the Basic EMT sequence, you must provide a current physical examination, which confirms you are free from communicable disease and capable of performing the duties necessary for the safe care of patients (physicals should be turned in to the College Health Office before beginning EMT classes). The health form is good for one year.

Emergency Medical Technician Courses	Cr. Hr.
EMT 101 Basic EMT	6
EMT 102 Basic Field Experience	1
EMT 108 Rescue and Extraction	1
Total	8

These courses are described in Section VI, Course Descriptions.

Surgical First Assistant Academic Program

*Advanced-Level Course of Study (A Pilot of the New National Model)

The Surgical First Assistant's primary function is to provide aid in exposure, homeostasis, and other technical functions that will help the surgeon carry out a safe operation with optimal results for the patient. The role will vary considerably with the surgical operation, specialty area, and type of facility.

Prerequisites - Each and every prerequisite must be met prior to application for acceptance into the program:

1. Current certification as either a certified surgical technology (CST), certified nurse-operating room (CNOR), or a physician assistant-certified (PA-C).
2. Three years of current operating room scrub and/or assisting experience within the last five years as verified by your employer.
3. Verification of proficiency in anatomy and physiology (may be confirmed through recent coursework, satisfactory completion of questionnaire, or examination).
4. Proof of liability insurance covering health care activities.
5. Current CPR/BLS certification.
6. Acceptable health and immunization records (including Hepatitis B or waiver).
7. Computer literacy (preferred).
8. Letters of reference from two surgeons.

Admission to Program

Due to the limited capacity of the Surgical First Assistant training facilities, this curriculum is considered a "limited enrollment" program. Ten new students will be accepted to begin the professional course sequence each Winter Semester on a "first-qualified/first-served" basis. For answers to admissions questions, contact the Surgical First Assistant Program Coordinator or allied health counselor at Delta.

Nature of Work

The Surgical First Assistant performs delegated tasks only under the direct and immediate supervision of the responsible surgeon. The responsibilities of this training do not include surgical maneuvers of a surgeon; that is, nonphysician assistants are not being trained to perform independently any surgical operation, major or minor.

Practice privileges of those acting as Surgical First Assistants are based upon verified credentials reviewed and approved by the appropriate credentialing committee of the health care institution.

Program Accreditation

Specialized accreditation for this type of curriculum is not yet available. CAHEA is aware of the development of the proposed national model, and recognition of the Surgical First Assistant as an emerging new profession will be pursued. The Delta College curriculum is consistent with a suggested draft of Essentials for Accreditation.

Professional Courses Required (Surgical First Assistant): You must achieve a minimum of "C" (2.0) grade in **each** clinical-related course to be eligible to continue in this program. These courses must be taken in the **sequence** shown and enrollment in these courses is by permission **only**.

Course Title	Cr. Hrs.
Winter Only	
SFA 301 Advanced Surgical Anatomy I (Lecture)	3
SFA 303 Fundamental Techniques I (Lecture and Lab)	3
SFA 305 Anesthesia and Surgical Pharmacology (Lecture)	2
Spring/Summer Only	
SFA 312 Advanced Surgical Anatomy II (Lecture)	3
SFA 316 Professional Conduct (Lecture)	2
SFA 318 Applied Bioscience (Lecture)	3
SFA 314 Fundamental Techniques II (Lecture)	1
Fall Only	
SFA 329 Clinical Preceptorship	10
Total	27

These courses are described in Section VI, Course Descriptions.

ACADEMIC POLICIES AND INFORMATION

- 1. Acceptance of Credit**
- 2. Grading System**
- 3. Disputed Final Grade Policy**
- 4. Your Academic Status**
- 5. Academic Status for Financial Aid Recipients**
- 6. Graduation Requirements**
- 7. Commencement**

Acceptance of Credit

From Other Colleges or Training Programs

From Regionally-Accredited Schools

Course work completed at a college or university accredited by one of the six Regional Accrediting Associations of Colleges and Schools will be considered according to the following guidelines:

1. Freshman and sophomore courses numbered 100 - 299, which were completed with a grade of "C" (2.0) or above on a 4.0 scale and are equivalent to Delta College academic courses will be accepted for credit. In addition, elective credit will be given for courses that are in a discipline which Delta College teaches. In cases where Delta College has no department or area similar to the courses on incoming transcripts, no credit will be given. Higher-level courses will be accepted only if they are equivalent to a specific Delta College course. Credit will not be granted for courses below the 100-level.
2. The student has the option to receive from one to 8 credits for non-equivalent course work and/or course work in which passing grades of "C-" or "D" were received. A maximum of 8 credits can be granted between the two areas. A student must request that a counselor submit the necessary form to the Records and Registration Office to receive this credit.

From Non-Regionally Accredited Schools

Courses that apply toward a Delta occupational Certificate/Associate degree program will be considered according to the following if they were completed with a grade of "C" (2.0) or above at institutions recognized and approved by the Council on Postsecondary Accreditation (COPA):

1. The Director of Records will forward the transcript for evaluation of the occupational courses to the appropriate Division Chair or Program Director. The following options are available to the Division Chairs or Program Directors:
 - a. Equivalent Delta College credit may be granted upon review of course outlines, and/or course descriptions, and/or appropriate descriptive materials. It is the responsibility of the student to provide any requested materials to enable proper evaluation.
 - b. Equivalent Delta College credit may be granted after successful completion of Delta College courses at the subsequent level.
 - c. Equivalent Delta College credit may be granted upon demonstration of proficiency via examination, interview, or other appropriate evaluation means as determined by the appropriate Division Chair or Program Director.
- d. Credit may not be granted.
2. No credit will be granted for General Education courses.

Procedures for Evaluating Credits

1. Only **official transcripts** will be evaluated. Delta College will accept as official transcripts only incoming transcripts that have appropriate signatures and seals and have been mailed directly to the College from an issuing institution. Transcripts in the possession of the student or copies of transcripts or grade reports may be used for academic advising or counseling, but no transfer credits will be posted to the Delta College academic transcript from these documents. It is the responsibility of the Delta College Records and Registration Office to verify the official status of the transcript prior to evaluation.
2. Official transcripts should be mailed to the Delta College Admissions Office from the transfer institution. Admissions will then forward them to the Records and Registration Office. Transcripts received from a Michigan college or university at least one month prior to a registration period will generally be evaluated within one week of receipt in the Records and Registration Office. More time may be necessary to evaluate transcripts from out-of-state institutions.
3. Credits only, not grades, are accepted in transfer. Grades earned at another school in courses accepted by Delta College are not entered on the permanent Delta academic transcript or calculated in the Delta College cumulative grade point average.
4. A maximum of 38 transfer credits are applicable to a Delta College Associate degree and the maximum that may be used toward registration priority.
5. The credit value of each course accepted in transfer will be determined by Delta College; the number of credits will never be greater than the Delta College equivalent course, but the number granted may be fewer than the number of credits received at the transfer institution.
6. Transfer credit granted will be shown on the student's permanent academic transcript.

Non-Traditional Credit

1. Military credit

- a. All veterans having a certified DD214 form on file in the Veterans Services Office will be granted two physical education (PE) credits and one physical education theory (PEH) credit.
- b. Veterans who have taken educational programs during military service may, under certain conditions, receive elective credit for that work. The Guide to the Evaluation of Educational Experiences in the Armed Services by the American Council of Education is used to determine these elective credits.
- c. Courses completed at accredited military colleges, such as The Community College of the Air Force, may result in the awarding of transfer credit.

2. State-Certified Training

- a. Individuals who have successfully completed training through the Michigan Fire Fighters Training Council may be granted equivalent credit at Delta College upon submission of copies of their state certificates.
- b. Students may be granted credit for the Basic EMT sequence of courses at Delta College if they are already practicing EMT's licensed by the State of Michigan.
- c. Students may be granted credit for other State-certified training if applicable to an **occupational curricula** and approved by the appropriate Division Chair.

Credit for Prior Learning

You may earn academic credit for prior learning in many areas of study at Delta College. The Credit For Prior Learning Program, administered through the Assessment/Testing Services Office, is designed for students who have gained, through related work experience and/or training, learning that may be equivalent to content taught in actual College courses. If you are interested in any of these programs, please be aware that the following restrictions may apply:

- These options are not available in all areas of study.
- Credits earned through this Program may not be transferrable to other institutions.
- Prior learning credits are not eligible for financial aid.
- You may only apply once for credit in the same course.

Four basic methods are used to assess prior learning. The first three methods are designed for new and currently enrolled students:

1. **Credit By Discipline Exam (CDE):** comprehensive challenge examinations are developed and evaluated by Delta College faculty in selected courses. If you earn a passing grade on a CDE examination, the credits will be recorded on your academic transcript for that course. A per-credit-hour-attempted fee is charged prior to taking a CDE examination. We recommend that you discuss the waiver option with your academic counselor.
2. **Credit By Portfolio:** an individualized process in which you submit a portfolio application, resume, personal manuscript, and supporting documentation of your prior learning. The faculty will then review and evaluate this material for possible credit. A per-credit-hour-attempted fee is charged prior to submitting portfolio materials to the appropriate academic Division. If you successfully complete a portfolio, the earned credits will be recorded on your academic transcript.
3. **Credit By Training:** an individualized process in which you earn academic credit for Delta College Training Programs. If you believe that you qualify for this option, contact the Assessment/Testing Services Office.

The fourth method is designed primarily for transfer students:

4. **College Level Examination Program (CLEP):** national standardized tests in selected academic areas. The application forms, course equivalents, and minimum passing scores for the tests accepted at Delta College are available from the Assessment/Testing Services Office. There is a test fee and a non-refundable administration fee charged per test. You must request that CLEP send your examination scores to the Delta College Records and Registration Office. Upon receipt of successful exam scores, the Records and Registration Office will record the appropriate credit on your academic transcript.

Articulation Agreements with High Schools and Skill Centers

The Delta College District is part of a statewide effort to implement the Competency Based Education Articulation of occupational programs. It is one of nine demonstration sites in Michigan, supported by a grant from the Michigan Department of Education, Vocational-Technical Education Services, in which secondary and post-secondary teachers, counselors, and administrators jointly develop curriculum agreements.

Articulation is an agreement between public schools and post-secondary institutions which may allow a student to receive credit for instruction received while attending a high school vocational/technical program. Presently, through an Articulation Project, Delta College may accept public school achievement for advanced placement into vocational/technical programs which are similar to programs completed in high school. Any student from Bay-Arenac, Huron Area Skill Center, Midland, Mt. Pleasant, Tuscola Area Career Center, or the Saginaw School District who attends a secondary program which has a signed agreement with Delta College, may receive advanced placement or credit for work completed in a high school or skill center. Eligible students must have graduated after spring 1978 from a public school program which has a signed agreement.

A student moving from a high school or skill center articulated program into a related program area at the College may get a course waiver with no credit or credit for successful completion of a competency test through following these steps:

1. The teacher of the secondary occupational education program shall complete a Student Achievement Recording Process (SARP) and make this a part of the student's permanent record.
2. Upon application for general admission to Delta College, a student shall request the high school to forward a copy of the SARP record to the Director of Admissions, Delta College.
3. The Delta counseling staff will generally review the achievement record of the student and recommend:
 - a. Full course credit be assigned.
 - b. Partial course credit be assigned (procedure not yet established).
 - c. Performance tests be completed.
 - d. Course waiver (no credit assigned).
 - e. Any combination of the above or none of the above.

Note: Each student must meet and maintain all of the entrance requirements and academic standards of Delta College and prerequisites for the specific program desired. The Articulation Agreement in **no way guarantees** a student entrance into Delta College or early enrollment into limited enrollment programs.

Programs now articulated are: Accounting, Automotive Services, Computer Information Systems, Drafting, Electronics, General Business, Office Systems Education, Lithography, Machine Tools, Nursing, Residential Construction, and Welding. Further information may be obtained from area high schools/skill centers or from the Articulation Coordinator, 686-9371; from Midland, 662-4431, ext. 9371.

An Employer's Opinion

"My most recent hiring of a Delta College student worked out very well. I like to use Delta services because of the quality of students they turn out."

Mr. Jack Weinstein • Attorney • 760 Somerset • Saginaw, MI 48603

Grading System

Grades

The grading system at Delta College is a letter system with associated quality points which are used to compute cumulative grade point averages. You will receive one final grade in each course taken.

Letter Grade	Meaning	Grade Points Per Credit
A	Excellent	4.0
A-	Excellent	3.7
B+	Good	3.3
B	Good	3.0
B-	Good	2.7
C+	Average	2.3
C	Average	2.0
C-	Poor	1.7
D+	Poor	1.3
D	Poor	1.0
E	Fail	0.0
P	Pass (C/2.0 grade or above)	Not included in computing credits and grade points
NC	No Credit (C-/1.7 or below)	
I	Incomplete	
X	Audit	
W	Withdrawal No Evaluation	
WP	Withdrawal Passing	
WE	Withdrawal Failing	

Note: The College Community Services Division also uses the above letter grades for their courses; however, points are not awarded or grade point averages maintained for Community Services courses.

Final Grades

Final grade reports are generally mailed to you within one week of the official ending date of each semester. Final grades are listed on your official academic transcript, which is maintained by the Records and Registration Office. Your final grade is the responsibility of individual faculty members. Instructors may exercise their own prerogatives with respect to your grades as long as these prerogatives do not conflict with other institutional policies.

I - Incomplete

An instructor may assign an Incomplete grade if you have not fulfilled all course requirements when final grades are assigned. An Incomplete is a temporary grade given only when your work has been of **acceptable quality** near the end of the 15-week semester, but the required amount has not been completed because of reasons satisfactory to the instructor.

Requirements of a course are to be completed no later than December 1 for Incomplete grades issued in the Winter and Spring/Summer Semesters and April 1 for Incomplete grades issued in the Fall Semester. In exceptional circumstances, additional time may be granted for completion of course work by notification from the instructor to the Director of Records in writing.

X - Audit

When you enroll in courses on an Audit basis, a grade of "X" will be recorded on your permanent record, if general requirements of auditing are fulfilled, and no credit will be earned. Some appropriate reasons for Auditing are professional enrichment or personal enjoyment. Tuition and fees are the same as for regular credit courses and a student number is required. Instructor Audit objectives must be fulfilled. Courses taken on an Audit basis are not applicable toward fulfillment of Associate degree or Certificate requirements. You must complete an Audit Request Form in the Records and Registration Office during the **first week the class meets**. For the deadline to request an Audit for courses that meet one week or less, you should contact the Records and Registration Office. Any questions regarding the course Audit option should be directed to the Records and Registration Office.

Audited courses do not count in determining student eligibility for financial aid. If you are receiving financial aid, you should contact the Office of Financial Aid before changing a course from academic credit status to Audit status. Audit grades will **not** be used in determining academic load for veterans' certification.

W - Withdrawal

This grade is used when you officially withdraw from a course from the 12th calendar day through mid-point of a course. Additionally, your instructor has the **option** of withdrawing you from a course up to mid-point if:

1. You have been absent from an excessive number of classes or
2. You lack the course prerequisites.

WP/WE - Withdrawal Passing/Failing

If you officially withdraw from a course after mid-point through one week prior to the official ending date of the course, a grade of "WP" (passing course work with a grade of "D" or better at the date of withdrawal) or "WE" (failing course work at the date of withdrawal) will be assigned to you by the instructor.

For information on the drop and withdrawal policies and procedures, see Section II, The Enrollment Process, Registration.

Grade Change Procedure

Once recorded by the Records and Registration Office, grades will be changed only if an official Grade Change Form is completed and signed by the instructor and the appropriate academic Dean. The Grade Change Form must be received **no later than the end of the next semester following grade issuance**. This policy does not apply to grade changes under consideration via the Disputed Grade Policy.

P/NC - Pass/No Credit Option

The Pass/No Credit grade option is available for several courses at Delta College. If you are interested in this grading option in place of the usual "A" through "E" grading system, you should declare this choice at registration or **no later than** the end of the 10th week of the semester (5th week of a session) by completing a form at the Records and Registration Office. Courses approved for the P/NC grade option are listed in each semester's Schedule of Academic Classes booklet.

Guidelines and Procedures for P/NC Grade Option:

1. Grades on the P/NC system are not included in computing the semester or cumulative point average.
2. Grade of "P" (Pass): Credit is granted and represents performance at or above the "C"/2.0 level.
Grade of "NC" (No Credit): No credit is granted and represents performance at or below the "C-"/1.7 level.
3. You may not apply more than a total of 12 credits of P/NC course work toward Delta graduation requirements.
4. Enrollment on a P/NC basis is recorded with the Records and Registration Office.
No indication of your P/NC status will be communicated to a faculty member by any office of the College.
5. A letter grade will be on file in the Records and Registration Office, but only "P" or "NC" will appear on your transcript.
6. If you desire to have any grades converted from P/NC to letter grades, you may do so by applying to the Records and Registration Office **no later than the end of the following semester after the P/NC grade was issued.**
7. Course prerequisites and other criteria for enrolling in any course shall be determined by the Department or Division offering the course and apply equally to both the traditional and the P/NC grading systems.
8. If you are planning to transfer, you should first check with a Delta counselor regarding the acceptance of the P/NC grade option for specific courses by the transfer institution.

Grade Point Average (G.P.A.)

A student's Grade Point Average is determined by dividing the number of credits attempted into the quality points.
For example:

	Attempted	Grade	Quality Points
ENG 111	3	B	3x3=9
MTH 107	3	B	3x3=9
BIO 111	4	C	4x2=8
SOC 211	3	A	3x4=12
	13		32

$$\text{G.P.A.} = 32 \text{ divided by } 13 = 2.46$$

Credits Attempted - Credits for which the student enrolled and for which grades of A through E were given. Credits for courses in which grades of P, W, WP, WE, I, and X are given are not included here.

Credits Earned - Includes all academic credits taken at Delta for which final grades of A through D were recorded.

Credits transferred from other institutions or earned by examination are not included in cumulative averages.

Non-Credit Courses - Non-credit courses are not included in cumulative averages.

Grade Points

The number of grade points earned in a course is the number of credits multiplied by the number of grade points corresponding to the letter grade received. For example, a grade of B+ in a four-credit course equals 13.2 grade points ($3.3 \times 4 = 13.2$).

Repeated Courses

The highest grade received by you for any given course shall be the grade used in computing the cumulative grade point average and the number of credits shall only be counted once in the total number of credits attempted. All grades received by you in a given course shall, however, **remain on your academic transcript** but will be designated by the Records and Registration Office as having been repeated, so it is clear that only the highest grades earned are being counted in cumulative totals.

Honors

Each semester a President's List is issued of all students who receive a grade point average of 4.0 for that semester; a Vice President's List for all students who receive 3.7 through 3.99 grade point averages; and a Dean's List of students who receive 3.5 through 3.69 grade point averages. To be eligible, you must complete at least 12 credit hours in a Fall, Winter or Spring/Summer Semester. Courses taken on the Pass/No Credit option do not apply.

Academic Transcripts

Your transcript is the College's official academic record of your work. Your record is updated at the close of each semester. Your academic record includes all academic courses attempted and completed (course titles, credit hours, final grades and honor points), semesters enrolled, transfer credit accepted, courses waived, credit awarded by examination or advanced placement, certificates/degrees awarded, honors, and academic probation/dismissal status. Grades of all Community Services course work are also maintained by the Records and Registration Office. There is a \$2 charge for each transcript copy you request (\$5 for same-day service). Copies will be sent upon your written request to anyone designated by you. Ordinarily transcripts are mailed within three days. Transcript copies will not be furnished if you have delinquent accounts at the College.

Change of Student Information

A change in your name, address, or curriculum needs to be reported immediately to the Records and Registration Office or the Admissions Office. Communications and Grade Reports will be sent to the latest address on file. Legal name changes, other than marriage, or a Social Security number change require proper documentation.

Classification of Students

The classifications below apply only to academic students pursuing Certificate or Associate degree programs. Community Services credit hours are not included.

Freshman	29 or less credits earned
Sophomore	30 or more credits earned
Full-Time	Enrolled in 12 or more credits during a semester
Part-Time	Enrolled in 11 or less credits during a semester

Attendance Policy

It will be necessary for certain groups of students (e.g., veterans, financial aid recipients) to adhere to attendance requirements imposed by the policies of external regulatory agencies beyond the following stipulated by Delta College:

1. Attendance is expected at all courses for your maximum achievement.
2. It is your responsibility to make arrangements for missed course work.
3. The College recognizes that on occasion special College-connected events will conflict with scheduled course/laboratory times. Before those special occasions, you will need to work with the instructor to make alternate arrangements.
4. Individual instructors determine attendance rules and will explain those rules at the initial course meeting and/or in the course syllabus.

Plagiarism and Honesty in Academic Work

The principles of truth and honesty are recognized as fundamental to a community of scholars. The College expects that both faculty and students will honor these principles and in so doing will protect the validity of College grades. This means that all academic work will be done by the student to whom it is assigned without unauthorized aid or falsification of any kind. Faculty, for their part, will exercise care in the planning and supervision of academic work so that honest effort will be positively encouraged. Faculty will point out to students acceptable forms of incorporating the thoughts of others into their work.

It is expected that:

1. No student will knowingly, without proper authorization, procure, provide, or accept any materials which contain questions or answers to any examination to be given at a subsequent time. The unauthorized possession of such materials will be considered prima facie evidence of a violation of this provision.
2. No student will, without proper authorization, complete, in part or in total, any examination or assignment for another person or allow such examination or assignment to be completed, in part or in total, by another person.
3. No student will knowingly plagiarize or copy the work of another person and submit it as his or her own.
4. No student will knowingly misrepresent performance or falsify documentation related to the performance of any activity required to complete course/curriculum objectives.

If a question of academic honesty should arise, the first efforts toward the solution of the problem will be the responsibility of the faculty involved. The student will be notified of the allegation as soon as it becomes known to the faculty member and given a reasonable opportunity to respond to the faculty member before judgment is reached. Any penalty assessed will be at the discretion of the faculty member, who will take care to match the severity of the penalty with the seriousness of the situation. In any instance in which a failing grade in a course is given based on a charge of academic dishonesty, the faculty will notify the Division Chair and the student in writing of the circumstances and the evidence on which the action was based.

The student may appeal, through the Disputed Final Grades policy, any grade affected by a charge of academic dishonesty.

Disputed Final Grade Policy

If you do not agree with the final grade you receive in a course, we have a process available to you called Grade Appeal. Since a final grade assignment is made on an individual basis, this procedure can be invoked only by individuals questioning the appraisal of their own academic progress and cannot be invoked by one individual on behalf of a group of individuals.

Every effort will be made to resolve conflicts through informal discussion with the involved parties. You are encouraged to contact the Grade Ombudsman for a clear understanding of the process. All parties involved are encouraged to keep the time intervals between steps as short as possible. The time limits identified are considered maximum unless altered by the Grade Ombudsman, who has the responsibility to see that deadlines are met and the right to extend them under extraordinary circumstances. The Grade Ombudsman is a non-faculty member of the Senate Assembly who is appointed by the President of the College in consultation with the Faculty Executive Committee. Currently, that person is Dr. Burt Fettig, Dean of Students, K-132, phone 686-9220. **The following outlines the basics of the policy. A complete copy is available from the Grade Ombudsman.**

Informal Process

A student who wishes to discuss concerns regarding a grade will contact the faculty member and/or the Division Chair within 25 calendar days following the date the grade is due in the Records and Registration Office at the end of the semester. The faculty member and the student will attempt to resolve the differences. The Division Chair may be asked to assist with the conflict resolution.

Formal Process

1. To appeal formally a final grade for a course, the student must contact the Grade Ombudsman within five calendar days after the conference with the faculty member and/or Division Chair.

2. The student will write, within five calendar days of meeting with the Grade Ombudsman, a formal statement that explains the circumstances of the disputed grade. The statement will be given to the faculty member.

3. The faculty member will write a statement of response and submit it to the Division Chair.

4. The faculty member's response together with the student's statement are to be submitted to the Chair of the Division within five calendar days of receiving the student's statement. The grade Ombudsman will supply the student with a copy of the faculty member's statement.

5. The Chair will meet with the student and the faculty member within five calendar days of receiving the student's and faculty member's statements to discuss the grade appeal.

6. The Chair will take one of the following actions within two calendar days of the meeting with the student and the faculty member:

1. Dismiss the appeal and the grade remains.
2. Recommend a change of grade, or a change in the grade under specific conditions which are defined by the Chair. The recommendation of the Chair may be appealed to the Grade Appeal Board by either the faculty member or the student within three calendar days of receiving the Chair's recommendation.

7. The Grade Appeal Board is composed of seven members: four faculty members, (three appointed by the Faculty Executive Committee and one appointed by the Chair from the Division which offers the course in which the grade is being appealed); the appropriate academic Dean; one Student Services representative appointed by the Vice President of Student Services; and one student from the Student Senate Committee.

8. The Grade Appeal Board will meet within 10 calendar days of receiving the appeal at a time when both parties are available to respond to the Board's questions. Under special circumstances, alternates may be appointed to the Grade Appeal Board by the person originally responsible for the appointment of that position.

9. By majority vote, the Grade Appeal Board will make one of the following decisions within two calendar days of the meeting:

1. The appeal is dismissed and the grade remains.
2. The grade dispute is resolved by changing the grade, or changing the grade under specific conditions. All members of the Board will determine if the grade should be changed and the faculty members on the Board will decide the specific grade to be awarded.

10. Decisions rendered by the Grade Appeal Board will be final.

Table for Determining Academic Status

Following is the table for determining your academic status at Delta College. To use the table: 1) locate on your grade report or academic transcript your cumulative grade point average and the total number of credits attempted; 2) find the corresponding credits attempted in the left-hand column of the table; and 3) read across the page to your right until you locate the column which includes your current cumulative grade point average. This column heading indicates whether you are in the Satisfactory Progress, the Academic Probation, or the Academic Dismissal range.

Academic Status Scale			
Delta Credits Attempted	Satisfactory Progress	Academic Probation Status	Academic Dismissal Status
12	1.34 and above	.67-1.33	.66 or less
13	1.52 and above	.76-1.51	.75 or less
14	1.53 and above	.86-1.52	.85 or less
15	1.55 and above	.95-1.54	.94 or less
16	1.57 and above	1.03-1.56	1.02 or less
17	1.59 and above	1.08-1.58	1.07 or less
18	1.61 and above	1.12-1.60	1.11 or less
19	1.63 and above	1.17-1.62	1.16 or less
20	1.64 and above	1.21-1.63	1.20 or less
21	1.65 and above	1.25-1.64	1.24 or less
22	1.66 and above	1.28-1.65	1.27 or less
23	1.67 and above	1.30-1.66	1.29 or less
24	1.68 and above	1.34-1.67	1.33 or less
25	1.69 and above	1.37-1.68	1.36 or less
26	1.70 and above	1.40-1.69	1.39 or less
27	1.71 and above	1.44-1.70	1.43 or less
28	1.72 and above	1.47-1.71	1.46 or less
29	1.73 and above	1.50-1.72	1.49 or less
30	1.74 and above	1.54-1.73	1.53 or less
31	1.75 and above	1.56-1.74	1.55 or less
32	1.76 and above	1.58-1.75	1.57 or less
33	1.78 and above	1.61-1.77	1.60 or less
34	1.79 and above	1.63-1.78	1.62 or less
35	1.81 and above	1.65-1.80	1.64 or less
36	1.84 and above	1.67-1.83	1.66 or less
37	1.84 and above	1.69-1.83	1.68 or less
38	1.85 and above	1.70-1.84	1.69 or less
39	1.85 and above	1.71-1.84	1.70 or less
40	1.86 and above	1.73-1.85	1.72 or less
41	1.86 and above	1.75-1.85	1.74 or less
42	1.87 and above	1.77-1.86	1.76 or less
43	1.87 and above	1.77-1.86	1.76 or less
44	1.90 and above	1.78-1.89	1.77 or less
45	1.91 and above	1.79-1.90	1.78 or less
46	1.92 and above	1.80-1.91	1.79 or less
47	1.93 and above	1.81-1.92	1.80 or less
48	1.93 and above	1.82-1.92	1.81 or less
49	1.94 and above	1.84-1.93	1.83 or less
50	1.94 and above	1.85-1.93	1.84 or less
51	1.95 and above	1.85-1.94	1.84 or less
52	1.96 and above	1.85-1.95	1.84 or less
53	1.97 and above	1.86-1.96	1.85 or less
54	1.97 and above	1.86-1.96	1.85 or less
55	1.98 and above	1.86-1.97	1.85 or less
56	1.98 and above	1.87-1.97	1.86 or less
57	1.99 and above	1.87-1.98	1.86 or less
58	2.00 and above	1.87-1.99	1.86 or less
59	2.00 and above	1.87-1.99	1.86 or less
60 or more	2.00 and above	1.88-1.99	1.87 or less

Your Academic Status

Standards of Academic Achievement

1. A minimum cumulative grade point average of "C" (2.0) must be achieved to graduate with an Associate degree or Certificate.
2. A student making **Satisfactory Progress** shall have:
 - a. Successfully completed (grades A, A-, B+, B, B-, C+, C, C-, D+, D, or P) 51% or more of the credit hours in which the student enrolled overall, **and**
 - b. Shall **not** be on Academic Probation, Withdrawal Alert Status, or Dismissal Status.
3. A student making **Unsatisfactory Progress** is defined as:
 - a. Being placed on Withdrawal Alert after having enrolled in 12 or more credit hours; having attended at least two semesters; and having received 50% or more W, WP, and/or WE grades overall.
 - b. Being placed on Academic Probation for being below the required grade point average as indicated on the Academic Status Scale (page 82) after having attempted 12 or more credits and having attended Delta College for at least two semesters.
 - c. Being placed on Academic Dismissal for having an academic grade point average which indicates Dismissal Status on the Academic Status Scale (page 82).

Probation and Dismissal Status Conditions and Procedures

1. **Academic Probation Status:** The Director of Records will issue a letter to all students whose grade point averages indicate they are on Probation Status according to the Academic Status Scale at the end of Fall, Winter, and Spring/Summer Semesters. Students on Probation who plan to enroll the next semester should make an appointment with a counselor to have their curricula and course selections reviewed. Students on Probation may be strongly encouraged to contact the Teaching/Learning Center for diagnostic review and be referred to appropriate tutorial services.
2. **Dismissal Status:** Students who are placed on Dismissal Status at the end of the Spring/Summer or Fall Semesters will be issued Probation Dismissal Warning letters. These letters will indicate they are in severe academic trouble because of their low grade point averages. These students will be expected to seek counseling assistance and recommendations to change directions in order to improve their grade point averages.

Students placed on Dismissal Status at the end of the Winter Semester will be dismissed from Delta College. These students must remain out of Delta College for one academic year (the Fall and Winter Semesters following dismissal letter). Dismissed students have the right to appeal the dismissal action. A written request to appeal must be submitted to the Academic Progress Committee*.

*The Academic Progress Committee is composed of the Director of Records or designee, a counselor and an academic Dean or designee.

Dismissal Appeal

1. Meet with a Delta College counselor, who will provide the student with the Academic Progress Appeal Request Form.
2. Complete fully and return the Academic Progress Appeal Request Form to the Director of Records by the stated deadline.
3. Attend the scheduled Appeal Hearing.
4. If the committee rejects the appeal, the student will remain out of Delta College for one academic year. If the appeal is successfully, the student must follow the conditions set forth by the Appeals Committee.

Grade Point Average Recomputation Policy

If you wish to re-enroll after an absence from Delta College of three or more years and you left on Probation or Dismissal Status, you may petition the Academic Achievement Committee* to recompute your cumulative grade point average. If the petition is approved, all courses previously taken will remain on the permanent record. Those courses with grades of A, A-, B+, B, B-, C+, and C will be converted to P (Pass grades) and credits will be counted. All other courses will be converted to NC (No Credit).

If the petition is approved, you may resume your academic program at Delta with no cumulative grade point average and thereafter you are subject to the conditions of Satisfactory Progress, Probation, and Dismissal as indicated on the Academic Status Scale. **Note:** You may apply no more than 12 credits of P/NC coursework toward Delta College graduation requirements.

*The Academic Achievement Committee is composed of the Director of Records, an academic Dean, and the Counseling Chair.



Academic Status for Financial Aid Recipients

Satisfactory Academic Progress Policy for Financial Aid Recipients

To be eligible for financial aid, students must be making Satisfactory Academic Progress toward the completion of a Certificate or Associate degree.

All courses taken at Delta College are included in determining Satisfactory Academic Progress, regardless of whether or not the student received financial aid for the courses.

Satisfactory Academic Progress Standards

1. Making Satisfactory Academic Progress is defined as having successfully completed 51% or more of the credits in which the student enrolled overall and not having been placed on Academic Probation Status, Withdrawal Alert Status, or Dismissal Status.

- a. Courses with grades of A, A-, B+, B, B-, C+, C, C-, D+, D, or P are successful completions.
- b. Courses with grades of W, WN, WP, WE, NC-No credit, I-Incomplete, X-Audit, and E-Failure are **not** successful completions.
- c. A student is placed on Academic Probation for having a grade point average below that required on the Academic Status Scale (page 82) after having attempted 12 or more credits and having attended Delta College for at least two semesters.
- d. A student is placed on Withdrawal Alert Status for receiving 50% or more W, WN, WP, and/or WE grades overall after having attempted 12 or more credits and having attended Delta College for at least two semesters.
- e. A student is placed on Dismissal Status for having an academic grade point average which indicates Dismissal Status on the Academic Status Scale (page 82).
- f. For students with **repeat grades**, the lower grade is considered an unsatisfactory grade and the higher grade is considered a satisfactory grade.
- g. For students choosing **Recomputation**, all grades changed to P are considered satisfactory grades and all grades changed to NC are considered unsatisfactory grades.

2. Satisfactory Academic Progress also requires financial aid recipients to complete the Certificate or Associate degree within the time frame shown:

Student Status	Certificate or Degree Must Be Completed in a Maximum of
Full-time	10 Semesters
3/4-Time	15 Semesters
1/2-Time	20 Semesters

- a. When a student has reached the maximum 10 full-time-equated semesters of work toward the Certificate or Associate degree, financial aid will be terminated.

- b. All semesters are taken into consideration when determining the maximum time frame, whether or not the student received any aid during those semesters.
- c. Transfer credit must be taken into consideration when calculating maximum time frames; therefore, each 12 credits transferred into Delta College will be calculated as one semester of eligibility, up to a maximum of 38 credits or 3.25 semesters.

Appeals

1. Students who have been terminated from further financial aid for failure to meet Standards of Academic Progress have the right to appeal. All appeals must be submitted in writing on the Satisfactory Academic Progress Appeal Form to the Office of Financial Aid. Appeals must be received no later than one week before the semester begins. Generally, appeals received after that time will be considered to be appeals for the following semester. Students submitting appeals should state the reasons why satisfactory academic progress was not made and discuss actions that have been or will be taken to make satisfactory progress in the future. **Documentation supporting the reasons for the appeal must be attached.** Mitigating circumstances beyond the reasonable control of the student, such as personal injury or illness, death of a relative, or other special circumstances, may be grounds for a successful appeal.

- a. If the appeal is approved, the student will receive one additional probational semester of aid during which s/he must **either** complete all courses in which s/he registers with grades of "C" (2.0) or better (no C-, D+, D, E, or NC grades) and no Withdrawals (W, WP, WE), no Incompletes (I), and no Audits (X) or once again meet the Delta College Standards of Academic Progress. At the end of the semester, grades will be checked.
- b. If the student has met Standards of Academic Progress, aid will once again be awarded. If the student has not met Standards of Academic Progress, but has met the conditions stated in a. above, further aid will be granted on a probational semester-by-semester basis. Grades will be checked at the end of each semester before aid is awarded for the next semester to ensure that the student is continuing to make academic progress. This process will continue until such time as the student once again meets the Delta College Standards of Academic Progress. If it should be found that the student has not made academic progress during one of these probational semesters, aid will be denied and the student will have to attend at his/her own expense until such time as the Delta College Standards of Academic Progress are once again met.
- c. If the student does not meet the Standards of Academic Progress or the conditions of the additional probational semester as stated in a. above, s/he must attend at his/her own expense until such time as the Delta College Standards of Academic Progress are once again met.

2. If the first appeal is not resolved to the satisfaction of the student, a second appeal may be made in writing to the Associate Dean of Financial Aid and Registration, who will convene the Financial Aid Advisory Committee the first week of each month to review the second appeals. The Associate Dean will inform the student of the Advisory Committee's decision, which will be considered final.

Graduation Requirements

Degrees Granted by Delta College

- Associate in Arts
- Associate in Science
- Associate in General Studies
- Associate in Applied Science
- Associate in Business Studies
- Dual Degree

If your attendance has been continuous in the same program you may, for the purpose of graduation, elect either the program in effect at the time of your first registration in the College or the program in effect at the time of your application for graduation. Continuous attendance is defined as attending a minimum of one semester during each academic year since your first registration. If your attendance has not been continuous, you must follow the program in the effect at the time of your readmission.

A maximum of 38 semester hours of transfer credit may be applied toward a Delta College Associate degree.

Associate Degree Requirements: Students must complete all basic degree requirements, plus specific requirements in one of the Associate degrees listed. All financial obligations to Delta College must be fulfilled before a student is issued a diploma and/or certificate.

Basic Degree Requirements

1. Earn a 2.0 minimum cumulative grade point average in an Associate degree curriculum. Students in the occupational curricula must earn a minimum of "C" (2.0) in specified courses. These courses are identified in Section III, Programs of Study.
2. Earn a minimum of 62 credits.
3. Successfully complete six credits in content-area writing courses.*
4. Earn a minimum of two credits in physical education activity courses.
5. Successfully complete an approved course in American government (three or more credits).
6. Earn a minimum of 24 credits by instruction while in attendance at Delta College. You must earn the final credits at Delta to complete a degree. **Exception:** If 52 or more credits have been completed on a degree program at Delta, the final credits (maximum 12), if approved, can be earned through the Guest credit option at other institutions and transferred back into Delta.
7. File an application for an Associate degree and/or Certificate with the Records and Registration Office by mid-semester of the final semester of your course work.
8. You cannot apply more than a total of 12 credits of P/NC course work toward graduation requirements.

*Effective with the Fall Semester 1988, all entering students (those with no prior Delta credits) must complete six credits of writing across the curriculum courses to fulfill graduation requirements. Courses are designated by a "W" next to the course code, such as POL 103W, in the Schedule of Academic Classes booklet. Students with previously-earned degrees from accredited colleges and universities are exempt from this policy. College composition courses may not be used to fulfill the College writing requirement.

Certificate Requirements

1. Earn a minimum of 30 credits (a minimum of 15 credits must be completed at Delta).
2. Complete specific courses in an occupational curriculum. See Section III, Programs of Study.
3. Be enrolled at Delta the semester in which Certificate requirements are completed. Any exception to this must be approved by the Vice President of Instruction and Learning Services.
4. Fulfill Basic Degree Requirements Nos. 7 and 8 listed on page 85.

Associate in Arts Degree (A.A.) Requirements

1. Fulfill all Basic Degree Requirements listed on page 85.
2. Satisfactorily complete six credits in English composition or an approved equivalent.
3. Satisfactorily complete 8 credits minimum in each of Groups I, II and III listed below.

Associate in Science Degree (A.S.) Requirements

1. Fulfill all Basic Degree Requirements listed on page 85.
2. Satisfactorily complete six credits in English composition or an approved equivalent.
3. Satisfactorily complete 8 credits minimum in each of Groups I and II plus 20 credits minimum in Group III listed below.

Group Requirements for Associate in Arts and Science Degrees

Group I: Humanities

Art: ART 151, 152, 153, 251, 252, 255, and 258 only
French (FR)
English: ENG 297 and Literature courses only
German (GE)
*History: HIS 111 and 112 only
Interdisciplinary Humanities (IHU)
Literature: courses listed under ENG designation
Music: MUS 100, 111, 112 and 115 only
Philosophy (PHL)
Photography (PHO)
Russian (RUS)
Sign Language (SL)
Spanish (SPA)
Speech: SPH except SPH 122 and 148

Specific major program requirements and acceptable courses within the group requirement areas differ among transfer colleges and universities. It is recommended that if you are planning to transfer, you should consult with a counselor to ensure that your planned course work meets the requirements for graduation from Delta College as well as specific requirements at other institutions into which you may wish to transfer.

Group II: Social Science

Economics (ECN)
*History (HIS)
*Geography (GEO)
Political Science (POL)
Psychology (PSY)
*Sociology: SOC 200-level courses

Group III: Natural Science

At least one lab science must be taken
Biology (BIO)
Chemistry (CHM)
Computer Science (CPS)
*Geography: GEO 111 only
Geology (GLG)
Interdisciplinary Science (SCI)
Mathematics: MTH 110 and above only
Physical Science (PSC)
Physics (PHY)
*Sociology: SOC 230 only

* **Note:** HIS 111 and 112 may be included in either Group I or Group II, but may not be counted in both groups; GEO 111 may be included in either Group II or III, but may not be counted in both groups; SOC 230 may be included in either Group II or III, but may not be counted in both groups.

Associate in Applied Science Degree (A.A.S.) Requirements

1. Fulfill all Basic Degree Requirements listed on page 85.
2. Satisfactorily complete six credits in English composition or an approved equivalent.
3. Satisfactorily complete all courses listed in one of the Delta College occupational curricula. See Section III, Programs of Study.

Associate in Business Studies (A.B.S.) Degree Requirements

1. Fulfill all Basic Degree Requirements listed on page 85.
2. Satisfactorily complete six credits in English composition or business communications.
3. Satisfactorily complete all courses listed in one of the Delta College business occupational curricula. See Section III, Programs of Study.

Associate in General Studies (A.G.S.) Degree Requirements

This degree will meet your needs if your goal is self-enrichment and you are not following a specific occupational or transfer curriculum. Because of the limited transferability, or in some cases non-transferability, of this degree, it is strongly suggested that you discuss this option with a counselor and consider fulfilling the Group Requirements.

1. Earn a minimum of 62 credits.
2. Earn a 2.0 minimum cumulative grade point average.
3. Fulfill Basic Degree Requirements Nos. 3, 5, 6, 7, and 8, listed on page 85.

Dual Associate Degree (A.A.S. & A.B.S.) Requirements

Dual Associate degrees are available in several occupational fields. The requirements are generally completed simultaneously. Your diploma will list both degrees: Associate in Applied Science (health care curricula) and Associate in Business Studies: Business Management

1. Fulfill Basic Degree Requirements listed on page 85.
2. Satisfactorily complete all courses listed in one of the Delta College occupational curricula. See Section III, Programs of Study.
3. Satisfactorily complete an additional 24 credits minimum, as prescribed for the approved dual degree.

Subsequent Associate Degrees

Associate degrees can be earned from Delta College following the first earned degree; however, when you complete two or more curricula in the same Division with a difference of less than 24 credits, you will receive only one Associate degree and the transcript shall indicate that you have completed requirements in two or more curricula. Candidates for a subsequent degree must meet the following requirements:

1. Already have earned an Associate, Baccalaureate, or higher degree. Previously-earned credits will be evaluated for transfer to this degree.
2. After issuance of previous degrees, earn a minimum of 24 credits at Delta College.
3. Satisfactorily complete a planned curriculum in one of the following degrees: Associate in Arts, Science, Business Studies, or Applied Science.
4. Establish a new grade point average on the subsequent Associate degree course work with no carry-over from any previously earned degrees.
5. Fulfill Nos. 1 and 7 of the Basic Degree Requirements.

Commencement

One of the most memorable moments in your life will be receiving your Certificate or Associate degree from Delta College. You will want to attend Commencement, which will highlight this special moment for you and your family. Sometimes students are unaware of the special importance of attending Commencement. Relatives and friends take particular pride in seeing you achieve this goal. Give your family and friends the special pleasure of seeing you graduate from Delta College.

Although you may complete graduation requirements at the end of the Fall or Spring Semester, Commencement ceremonies are only held once a year at the end of the Winter Semester. Diplomas are mailed to you by the Records and Registration Office approximately four weeks after the end of the semester in which you complete your requirements.

The Commencement Program and your academic transcript will carry special designations if you complete your work with an outstanding academic record according to the following cumulative grade point averages:

3.50 - 3.69 Honors

3.70 - 3.89 High Honors

3.90 - 4.00 Highest Honors

Oscar M. Anderson Award

Given by the Northern Supply Company, recognizes the Automotive Service Technology graduate with an outstanding academic record.

Board of Trustees Honor Award

Presented to the graduate who has earned the highest academic average.

William R. Collings Award of Excellence

The Dow Corning Corporation recognizes a graduate with high personal goals, superior citizenship, and potential for leadership.

Davis Music House Award

Honors the graduate who has achieved outstanding scholastic success in music.

Dow Chemical U.S.A. Award

Recognizes the graduate who has earned the highest academic record in science.

Fred Dulmage Award

Recognizes the top ranking graduate in the area of Engineering Technology.

Dr. and Mrs. Donald C. Durman Award

Recognizes a graduate who has demonstrated service and leadership to Delta College and the community.

Eaton Corporation Award

Recognizes the graduate who has achieved a superior scholastic record in mathematics.

English Award

Recognizes a graduate with outstanding scholarship in English studies.

Dr. Daniel Kinsey Award

Characterizes athletic achievement, superior scholarship, and consideration for others.

Midland County Bar Association Recognition Award

Recognizes the outstanding graduate in criminal justice who expects to enter this field directly or who will continue studies at a transfer institution.

Frances Goll Mills Award

Recognizes the outstanding graduate in nursing.

Morley Brothers Foundation Award

Recognizes the outstanding graduate in business and management.

Saginaw Division Award

Recognizes the outstanding graduate in office systems who has shown high academic achievement and good citizenship.

Second National Bank Award

Recognizes the outstanding graduate in art who has demonstrated excellence of artistic expression in any field of visual arts.

Smith Brooker Law Award

Recognizes academic achievement and superior citizenship of a graduate planning to pursue further study in the legal profession.

Paul Sowatsky Memorial Award

Recognizes the outstanding graduate in the General Motors Automotive Service Educational Program.

Lola Bishop Whitney Award

Recognizes superior academic achievement and promise in the study of a foreign language.

SERVICES AND OPPORTUNITIES

1. **Services and Opportunities**
2. **Clubs and Organizations**

Services and Opportunities

Academic Advising

Location: Counseling Center
Main Building
K-130
Between J & K Wings

Phone: 686-9330

Academic advising begins at Orientation when counselors assist you in selecting the course or courses that best fit your needs, achievement level, curriculum requirements, and/or interests. See Section II, The Enrollment Process, Steps to Success for further information about Orientation.

Advising continues throughout your College experience whenever you make an appointment in the Counseling Center. You should make an appointment several weeks before the start of the semester for assistance with course recommendations. By making an early appointment, you will be able to see your counselor at a time that is convenient for you and give yourself time to digest the information you receive, so that you can plan your next semester appropriately.



Admissions

Location: Main Building
Welcome Center
Between C & D Wings

Phone: 686-9093

The Admissions Office should be your first stop at Delta College. The staff will assist you, as a new student, with the application and enrollment processes; issue your student number and I.D. card; conduct you on a Campus tour, if you wish; provide you with a College catalog and other Delta materials; and will be able to answer your questions or direct you to the Delta staff member who has the answer. Be sure to contact them early and get started down the right path to becoming a successful student at Delta.



Affirmative Action Office

Location: Main Building
A-2
Lower Level

Phone: 686-9546

Delta College is guided by federal and State laws and internal policies which provide for equal opportunity in employment and educational programs and activities. The Affirmative Action Office oversees equal employment opportunity (the right of all persons to work and to advance on the basis of merit, ability, and potential) and affirmative action (the means by which the condition of equal employment is achieved), and seeks to ensure that discrimination and sexual harassment do not take place in employment or in any educational programs or activities.

See page 4 of this catalog for the Affirmative Action Statement and Section VII, Regulations and References, Safety and Security Information of 1992 for further information regarding sexual harassment.

You are encouraged to contact Dr. Rose Beane, Affirmative Action Officer at the location and phone listed above if you have any questions regarding equal employment opportunities, affirmative action, discrimination, or sexual harassment.



African-American Services

Location: Main Building
H-132

Phone: 686-9121

As an African-American student, you will want to get to know the staff of the Office of African-American Services. They provide information and support to African-American students in the areas of admissions, financial aid, registration, academic advising, and program completion. The Office also sponsors an annual event to recognize graduating African-American students and their achievements at Delta College and has established a library to inform African-American students of their unique historical and cultural backgrounds.



Assessment/Testing Services

Location: Main Building
Welcome Center
Between C and D Wings

Phone: 686-9338

Assessment/Testing Services provides a variety of testing services for new students, currently-enrolled students, business and industry clients, and the community.

As a new student, you will be required to take the ASSET test as part of the Steps to Success Program. See Section II, The Enrollment Process, Steps to Success for more information.

If you have had work experience and/or training that you think may be equivalent to content taught in actual College courses, you should look into the Credit for Prior Learning Program, described in Section IV, Academic Policies and Information.

Assessment/Testing Services are available to business, industry, and public service agencies on a contractual basis. Through these contracts, employers are assisted in identifying individuals whose skills best match job requirements. Career assessment is also available for those seeking a job change.

In addition to these services, the Assessment/Testing Services Office is a test site for numerous national certification and licensing exams. Approximately 25 standardized national examination programs are held on Campus each year. Tests include the General Educational Development (G.E.D.) Test for high school equivalency, the ACT exam for high school students entering college, and several professional exams such as the dental assisting boards and the automotive certification tests.



Bookstore

Location: Main Building
Lower Level
N.W. Corner of Commons

Phone: 686-9030

Once you've registered for your courses, you'll want to go to the Delta Bookstore to get your textbooks. Textbooks are generally available for students to buy starting the first day of each registration period. For the quickest service, buy your books for your courses as soon as you receive your receipt/schedule, since long lines and long waiting periods to be checked out occur during the first week of classes each semester. Check into buying used books and save 25%.

Refunds: Textbook refunds are given to students who drop a course or have a course cancelled by Delta. Requests for a refund must be made **within the first ten days of the starting date of the course**. If you have purchased a new textbook from us, it must still be new and **unmarked** (no names, erasures, broken bindings) to receive a full refund. Marked and damaged **new** books will be credited at the used book price. Books purchased **used** will be refunded at the used price.

Buy-Back: The Bookstore sets up a book buy-back for students the last two weeks of the Fall and Winter Semesters and the last week of the Spring/Summer Semester. Most books can be resold. Exception: study guides, workbooks, lab manuals, and books with fill-in or tear-out pages.

In addition to textbooks, the Bookstore sells workbooks, lab manuals, school supplies, drafting equipment, study aids, art materials, sports-wear, magazines and paperbacks, greeting cards, college rings, and stuffed animals and other novelties.



Broadcasting

Location: Main Building
A-90
Lower Level

Phone: 686-9350

Delta College is fortunate to be able to serve our students and community through our television and radio facilities which transmit award-winning national and local programs. WUCM-TV 19 has been serving the residents of the tri-cities since 1964; WUCX-TV 35, located in Bad Axe/Ubly, began broadcasting at the end of 1986; WUCX-FM 90.1 went on the air in the fall of 1989.

TV 19/35 offers educational, cultural, and public affairs television programming that addresses community concerns and needs. Outstanding national programs, including "Frontline," "Great Performances," "The MacNeil/Lehrer Newshour," "Masterpiece Theatre," "Nova," "Nature," "Sesame Street," "Mister Rogers Neighborhood," and "Square One TV," are a special part of TV 19/35's schedule. Locally-produced programs are designed to address specific local needs that cannot be met by national programming. In 1989, TV 19/35 became the first public or commercial television station in the tri-city region equipped to transmit programming in stereo. In addition, a variety of TV 19/35 programs are broadcast with closed captions for the hearing-impaired viewers. TV 19/35 also provides Spanish language translation of certain programs.

Delta Broadcasting shares in the operation of public radio station WUCX-FM 90.1 with Central Michigan University. Listeners enjoy programs from National Public Radio, American Public Radio, and other major program sources, as well as local productions spotlighting jazz and recent trends in new music.

Delta Broadcasting's services to the community include outreach efforts, which involve working with a variety of local agencies, organizations, and volunteers to increase understanding of problems and possible solutions through the sharing of information. By combining local programming efforts, national documentaries, and grassroots involvement, Delta Broadcasting has been able to create a greater awareness of local concerns and has generated actions which address identified concerns, including drug abuse, adult illiteracy, teen pregnancy, child care, hazardous chemical spills, AIDS, and the environment.

Delta Broadcasting is more than TV 19/35 and FM 90.1. It also oversees the Broadcasting/Telecommunications (BRT) Program, which is taught entirely by Delta Broadcasting staff. Course work leads to an Associate degree and students gain valuable hands-on experience both by working on locally-originated programs and in broadcasting operations by taking on-air shifts in the TV 19/35 Master Control Room or FM 90.1 Studio.



"I Decided on Delta!"

"Delta is close to home and that's important to me. It gives me a chance to take college classes in familiar surroundings and that makes learning a lot more comfortable."

Edward Vega
Saginaw



Career Planning

Location: Main Building
Lower Level
East Concourse

Phone: 686-9072

If you need assistance in choosing or planning a first career or in changing to a new career, be sure to visit the Career Planning and Placement Services Office.

The staff has the following computerized career guidance systems available to you as you do career planning:

SIGI-PLUS: allows you to examine your work values, interests, and skills; identify occupations that match them; gather information on various careers; and learn strategies for realistic decision-making.

Michigan Occupational Information System (MOIS): this will provide you with a list of possible occupations based on the answers to a series of work-related questions. It includes State and national information on earnings and outlooks, as well as educational opportunities throughout the State, including costs, admissions requirements, and contact persons.

Eureka Micro-Skills Inventory: this allows you to select skills you would like to use in a career and provides you with a list of occupations in which you would need those skills.

To use these career guidance systems plus many other career guidance tools, stop in at Career Planning and Placement.

Community Development

Location: Research & Development Office
Main Building
A-125

Phone: 686-9205

Delta College faculty and staff, as well as College supportive physical resources, make community research and study available to qualified organizations. Faculty and staff combine as individual and interdisciplinary consulting teams to provide a source for community development. Diverse studies that range from the needs of senior citizens to the computerization of high school administrative functions are typical community development services. In addition, the data census bank at Delta has the latest census information stored on computer and this information will be made available to the citizen, agency, and business/industrial sectors of the tri-counties at cost. For further details, phone the Research and Development Office.



Community Services

Location: Main Building
A-76
Lower West Concourse

Phone: 686-9412

The Office of Community Services serves many needs of our community primarily through programs designed for adults. If you need to refresh or upgrade your job skills or learn new skills, or if you want to pursue some creative or avocational interest, you will want to look into the variety of occupational training and personal enrichment opportunities available through Community Services. Most of these activities are not offered for credit and are not applicable toward a Delta College academic Certificate or degree, nor are they designed to transfer into any other college.

In addition to the above, continuing education opportunities are available for entrepreneurs and professionals in the following: American Society of CLU/ChFC, Automotive Specialties, American Institute of Banking, Institute of Financial Education, Michigan League of Credit Unions, American Management Association, Saginaw Valley Dental Auxiliaries, Medical Insurances, and Nursing Continuing Education. In most cases, you can earn CEU's which are applicable to certification and licensure.

Most courses are subject to the standard tuition and fees. Some courses may have an additional fee added to cover special expenses. You should consult the Schedule of Community Services Classes for information on offerings, costs, and registration procedures.



Chicano/Latino Services

Location: Main Building
H-Bay

Phone: 686-9125

If you are a Chicano/Latino, Asian, Native American, or international student, you will want to get to know the staff of the Office of Chicano/Latino Services. The staff of this Office provides information and direct support for you in the areas of admissions, financial aid, registration, academic advising, and program completion. They also sponsor yearly activities to inform the College community of the unique cultural, historical and linguistic heritage of Chicano/Latino students.

An off-campus office, el Zocalo Center, operates during the Fall, Winter, and Spring Semesters at Tri-City SER, 620 Thompson, Saginaw. Phone 753-3417, Ext. 135 for hours and information.



College Relations Office

Location: Main Building
A-196

Phone: 686-9227

As a service to the community and to keep you informed, the College Relations Office works with area TV and radio stations and newspapers to provide information regarding Delta programs, meetings, sports events, cultural activities, workshops, and conferences. If you have questions about Delta College, phone the College Relations Office and the staff will be happy to direct you to the appropriate person. See also Speakers Bureau.



Conference Services

Location: Main Building
Lower Level

Phone: 686-9035

Food and Conference Services schedules conference and meeting rooms for various College and community events and caters meals for special events for both the College and the community. Contact the Food and Conference Services Office for details.



Cooperative Education

Location: Allied Health Building
F-40
Lower Level

Phone: 686-9474

If you are interested in working in a job that will give you experience related to your studies, you will want to look into the Cooperative Education Program. This Program is open to students majoring in general business studies, business administration, accounting, office/clerical, computer information systems, criminal justice, engineering technology, pre-engineering, broadcasting, and science, and enrolled in at least six credits. Co-op pay ranges from \$4.25 to \$10 per hour. Major Co-op employers include Dow Chemical USA, Corporate Division; Dow Chemical USA, Michigan Division; Dow Corning Corporation; Saginaw Division General Motors Corporation; VA Medical Center; Delta College; and area businesses. As a co-op student, you would usually work between 15-30 hours per week.

To be considered for co-op, you should submit to the Cooperative Education Office a co-op application form, an updated resume, and a copy of your most recent transcript from the Records and Registration Office. If you are a high school student, submit your final high school transcript. You should also have one year or more of studies remaining at Delta before graduating or transferring. Once you are hired into a co-op position, you will be required to enroll in the appropriate co-op academic course during the Fall and Winter Semesters. The co-op credits are included in the total number of credits required each semester and may be used as elective credits in your program.

You will need a grade point average of 2.0 or better to be eligible for co-op employment; a grade point average of 2.6 or better to be eligible for co-op employment with Dow Corning, Saginaw Division General Motors, and VA Medical Center; and a grade point average of 2.7 or better to be eligible for co-op employment with Dow Chemical USA and Michigan Division. You will be required to enroll in at least six credits for employment with Saginaw Division, General Motors, Delta, and area businesses; and to enroll full-time (12 credits) for employment with Dow Chemical USA and Michigan Division, Dow Corning, and VA Medical Center.



Corporate Services

Location: International Centre
310 Johnson
Saginaw

Phone: 758-3602

Corporate Services is an educational training unit of Delta College which develops and implements training services and programs for business and industry, reinforcing the importance of cooperative efforts between education and private industry. They train employees of 339 companies in 23 states and 20 foreign countries and they work in partnership with local economic agencies, Chambers of Commerce, and professional organizations and associations. In addition, they provide Delta College training programs. For further information about these programs, see Section III, Programs of Study.



Counseling Center

Location: Main Building
K-130
Between J & K Wings

Phone: 686-9330

Many important decisions and situations will confront you while you are a student at Delta College. You will need to make decisions regarding courses, curricula, and careers. You may become confused and upset or the stresses of your college or personal life may occasionally interfere with your academic achievement. These are the situations for which our counseling staff provides assistance. The staff is available both by appointment and on a walk-in basis. If you need simple, quick information or your questions will take only five or ten minutes to answer, you should take advantage of walk-ins. If your questions require more time, notations in your folder for future reference, or are of a personal nature, then you should make an appointment.

Your first contact with the counseling staff will likely be at Orientation. See Section II, The Enrollment Process, Steps to Success for further information about Orientation. After enrollment, there are many services available to you through the Counseling Center. These include:

Academic Advising: See this Section, Academic Advising.

Personal Counseling: Occasionally you may feel stressed from situations in your life. Counselors can help you to identify and clarify problems and find personal resources to cope successfully. Personal counseling is a strictly confidential relationship between you and your counselor.

Crisis Counseling: A counselor is available daily for students in crisis. You may go to the Counseling Center on your own or be referred by a staff or faculty member. The counselor will help you clarify the immediate issues and provide support in helping you re-establish balance. If needed, you will be referred to an appropriate agency outside Delta.

Career Guidance: Answers to questions such as, "What career, what major, what college?" are the outgrowth of understanding yourself. They require time and thought; assessing your interests and abilities; realistic planning and career information; and recognizing your own style, purposes, and values. Your counselor can help you with all of this, and you can discuss your current situation and your hopes, dreams, fears, and questions. Delta also offers career and life development courses, many of which are taught by the counselors. See Section VI, Academic Course Descriptions, under ABS (Applied Behavior Studies).

Transfer College Information: See Section III, Programs of Study, Transfer Programs and Transfer Procedures.



Criminal Justice Training Center

Location: Main Building
G-127

Phone: 686-9108

Delta College has been designated as one of the Regional Criminal Justice Centers in the state by the Michigan Law Enforcement Training Council and is supported by state funding to offer a wide variety of training courses for rural and urban police officers. The Training Center also has offices in the Delta College International Centre, 310 Johnson, Saginaw, Phone: 758-3606.

The Basic Police Training School offered at Delta for newly-hired officers is required by law. Center in-service training and professional development for currently-employed officers and security personnel includes courses covering topics such as civil liberties, criminal law, traffic radar, disaster control, and white collar crime; specialized one-day seminars and conferences on topics ranging from arson investigation to traffic control; Reserve Police Officers Training; and full-week state and national conferences such as Advanced Criminal Investigation, The National Polygraph Workshop, and the Hostage Negotiation Seminar. National investigative teams from recent transportation disasters, as well as top crime experts, are among the individuals who provide instruction and technology.



Dental Hygiene Clinic

Location: Allied Health Building
F-140

Phone: 686-9469

The Dental Hygiene Clinic provides you with the opportunity for oral hygiene services. These services are provided by the Dental Hygiene students under the direct supervision of state-licensed Dental Hygienists and Dentists and include: cleaning teeth, taking X-rays, oral examinations, oral cancer examinations, topical fluoride treatments, and oral hygiene instructions. Minimum fees are charged for these services to cover the cost of disposable products used during your two-hour appointment. For an appointment, phone the Clinic.

Disabled Students

Location: Main Building
B-116 & H-137

Phone: 686-9096

If you have a disability and need assistance, you will want to get in touch with the Office of Disabled Student Services. The staff provides direct and support services to students with disabilities, in order to accommodate their unique needs. These include: instructional aid services, interpreter services, reader services, adapted equipment, orientation to the Campus, and assistance with College procedures.

If you wish to make use of any of these services, you need to register with the Office. To ensure that the services are provided in a timely fashion, you should contact the Office at least two weeks prior to your enrollment in the College. You may certainly refer yourself, and the Office also works with Michigan Rehabilitation Services, the Michigan Commission for the Blind, Veterans' Rehabilitation Services, and the Intermediate School Districts.

Financial Aid

Location: Main Building
J-100

Phone: 686-9080

If you need financial help in order to go to college, then you will want to go to the Office of Financial Aid. The goal of the financial aid programs at Delta is to eliminate the economic barriers that prevent you from meeting your educational goals. Available, if you apply and are qualified, are grants, part-time employment, scholarships, and loans. It is extremely important to apply as early as possible for financial aid, since the application process can take two to three months; aid is awarded on a first-come, first-served basis; and funds in some of the programs run out early. See Section II, The Enrollment Process, Financial Aid for application and program details.

Fire Science Academy

Location: Main Building
A-55
Lower West Concourse

Phone: 686-9437 or
686-9438

The Fire Science Academy is jointly sponsored by the Delta College Office of Corporate Services, the Michigan Fire Fighter Training Council (MFFTC), and representatives of local fire departments who serve on the Academy's Planning Committee. Through this partnership, Delta has been designated by the MFFTC as a Regional Training Center. The Academy provides a variety of training programs, including Fire Fighter Training; Officer I, II, and III Schools; and professional outreach programs. All of the programs develop basic and advanced skills necessary for the trainees to be effective members of the professional fire-fighting community.

Food Services

Location: Main Building
Commons
North End, Lower Level

Phone: 686-9035

There's no doubt about it! Studying makes you hungry, so you'll want to visit our Food Services, where you can purchase snacks or full meals and enjoy the lounge facilities. In addition, vending machines in various locations throughout the Main Building and the Fine Arts Building offer hot and cold drinks, candy, gum, and other snack foods.

Foundation

Location: Main Building
A-45

Phone: 686-9224

Lower West Concourse

The Delta College Foundation is a nonprofit, tax-exempt educational corporation organized under Michigan law to receive gifts, grants, loans, bequests, and scholarships on behalf of the students, the staff, and the College. The primary purpose of the Foundation is to solicit private sector financial support to extend the broadest possible opportunities for educational benefits to the residents of Saginaw, Bay, and Midland counties.

The Foundation provides funding for student financial assistance, institutional enrichment, construction and maintenance of College buildings, purchase of instructional/teaching equipment, faculty/staff professional and personal growth activities, and innovative projects which benefit the College and community.

The scholarships provided by the Foundation include:

Donald J. & Betty Carlyon Scholarship
Delta College Business Division Endowment
Delta College Employees Scholarship for Students
Delta College Foundation Student Scholarship Endowment
Louis W. Doll/Patricia Drury Scholarship
Gene R. Duckworth Scholarship
Robert M. Gohike Memorial Scholarship
Honors Student Scholarship
Walter & Sophie Kilar Scholarship
King's Sons & Daughters Scholarship
Oscar W. Kloha Scholarship
W. R. & Edith Knepp Scholarship
Gary Laatsch Scholarship
William H. "Buddy" Oates Scholarship
Renee L. Rookard Scholarship
Clifford & Grace Saladine Scholarship
Van DeWitt & Ruth Simmons Scholarship
Paul Sowatsky Scholarship
Lola Bishop Whitney Scholarship
Jack & Alice Wirt Scholarship
Alton Sr., Alma, & Alton Jr. Zucker Scholarship

Program endowments provided by the Foundation include:

Donald J. & Betty Carlyon Endowed Teaching Chair
Ormond E. Barstow & Ludo K. Frevel Award for Scholarly Achievement Endowment
Global Education Endowment
Delta College Foundation Endowment

Global/International Education

Location: Main Building
A-58
Lower West Concourse

Phone: 686-9485

Delta College is aware of the importance of a global perspective in today's world and you will be assisted in gaining that perspective in part through the work of the Global/International Education Office. The staff supports curriculum programs concerning global issues and is involved in community outreach programs and partnerships. Some of their activities include: sister college linkages, international study tours, faculty and student exchanges, community forums on global/local issues, global awareness week, a Peace Corps partnership, and sponsorship of the International Student Organization.



Health, Physical Education, and Recreation (HPER) Facilities

Location: Main Building
North End

Phone: 686-9025

To add a little fun and fitness to your life, you can take advantage of our HPER facilities. We have something for everyone. There is a swimming pool, eight racquetball courts, two gymnasiums, a dance room, and a weight room. Used for College classes, these facilities are also available to the public on weekends during the Fall and Winter Semesters for a fee. Phone the HPER Office for details.

The newest addition to the facilities is the Fitness Center, which features a Universal aerobic super circuit and a variety of other aerobic exercise equipment. Through a required orientation session, you can have an individualized workout program designed just for you and a sophisticated computer program periodically monitors your progress. When not in use for College fitness classes, this facility is available for Delta employees and students, as well as the general public. Phone the HPER Office for hours and rates.

There are also outdoor facilities available to the general public at no charge when not in use for instructional purposes, team practice, or sports events. These include tennis courts, archery targets and an archery range, a track, a soccer field, and a golf driving range and putting green.



Health Services

Location: Main Building
B-103

Phone: 686-9333

To assist with your health needs, our staff of registered nurses is available to serve you. They provide emergency first aid; direct treatment for minor injuries or illnesses; health screening, including blood pressure, T.B. skin tests, and weight; health referrals and assistance with locating medical assistance; health counseling and preventative health care materials; dispensing of across-the-counter drugs as appropriate; health insurance information and applications; and maintenance of student health records.



Honors Program

Location: Main Building
E-136

Phone: 686-9091

If you are a highly-motivated learner capable of critical/creative thinking, the Honors Program is designed to meet your needs. Honors courses provide much individual attention as well as interaction with instructors and peers. You can enroll in the full Honors Program; select individual Honors sections; or receive Honors credit for non-Honors courses by arranging with instructors to complete an Honors option (extra reading or writing, a project, class presentation, etc.).

To qualify, you must meet one or more of the following criteria: graduate in the top 10-15% of your high school class; have a cumulative high school grade point average (GPA) of 3.5 or higher; have a combined score of 1100 on the SAT or a composite score of 25 on the ACT; have completed 12 college credits with a 3.2 or higher GPA; receive a strong teacher recommendation; do well on the ASSET test; or demonstrate equivalency of the above through portfolios, projects, awards, and/or an interview with the Honors Program Director.

If you are a motivated student seeking a challenging classroom environment and you can demonstrate a commitment to learning, you are likely to be admitted.



Library

Location: Main Building
Two Entrances:
Across from A-Wing & G-Wing

Phone: 686-9560

To assist you with your class work or for your business or personal use, the Library (also referred to as the Learning Resources Center) has a collection of over 100,000 volumes, periodicals, and newspapers and is a selected depository for United States government documents. The publications may be accessed by card catalog, printed indexes, and electronically. Compact disc indexes are available for some publications. Full text articles from recent New York Times and Wall Street Journals are available on compact disc, as are some reference publications.

On-line access is available to local libraries, as well as college, university, and public libraries. If a book or periodical is not available at Delta, you may request it through an inter-library loan. Be sure to allow adequate time for delivery.

The Library services include individual study stations, Library tours, Library instruction, and research and bibliographic assistance.

The Learning Resources Center also provides audio-visual equipment for your use within the Library, including slide projectors, record players, tape recorders, video tape players, and related projection equipment available for use in accordance with the Senate Handbook guidelines. The Library also has audio-visual study stations for individual instruction and study.



Ministry Services

Location: Main Building
H-144

Phone: 686-9265

If you feel the need to talk or want to get in touch with the church community, the services of Campus Ministry are always available to you, providing counseling, crisis intervention, referrals, and educational programs and studies, and acting as a liaison between Delta and the church community.



Multi-Media Learning Lab

Location: Allied Health Building
Second Floor

Phone: 686-9479

The Multimedia Learning Lab is an open lab, available to provide you with flexible, independent learning activities which support the instruction you receive in the classroom. It is made up of independent work spaces with open access (days, evenings, and weekends), and provides technical support staff, services, and materials. Preferential access is given to students in five areas: allied health; nursing; science; technical; and health, physical education and recreation.



Off-Campus Centers

For information, contact the Center Services Office.

Location: Main Building
E-130
Between D & E Wings

Phone: 686-9221

Delta College offers courses and services in approximately 30 off-Campus locations, giving you the opportunity to take many courses at sites that may be closer to your home than the main Campus. The six major Off-Campus Centers are:

First Ward Community Center
1410 N. 12th
Saginaw

Phone: 754-4443

Industry Education Center
3024 James Savage Road
Midland

Phone: 496-3368

International Centre
310 Johnson
Saginaw

Phone: 758-3600

Midland Center
1025 E. Wheeler Road
Midland

Phone: 835-9961

Ricker Annex Center
1925 S. Outer Drive
Saginaw

Phone: 752-7500

el Zocalo Center
Tri-City SER
620 Thompson
Saginaw

Phone: 753-3417, ext. 135

Since the number of courses offered at these Centers varies, the number of services offered also varies. Some of the services offered at the six Centers listed above include computer labs, tutoring, study skills development, make-up testing, limited advising/counseling services, referral to appropriate on-Campus offices, forms and information needed for Delta processes, and food and beverage vending machines.

Check the Schedule of Academic Classes booklet for a listing of courses offered each semester at off-Campus locations.



"I Decided on Delta!"

"I chose Delta because they offer classes at so many different locations! I can take a class at my local high school or one of the off-Campus centers, or I can drive out to Campus. No matter where I'm at, it never takes longer than 45 minutes to get there."

Tom Grosskopf
Midland

Placement Services

Location: Main Building
Lower Level
East Concourse

Phone: 686-9074

If you are looking for employment assistance, be sure to take advantage of the services of the Career Planning and Placement Office.

When you want a job, the staff is there to help. Delta students, former students, and alumni, along with graduates from other Michigan public colleges, may register for employment services. As positions become available, you will be matched to them by computer, notified of openings, and referred to prospective employers.

Assistance is also available if you are seeking employment while you are attending Delta. Many jobs are available on-Campus, but there are also a variety located in the community. Many are targeted at needy students participating in financial aid work-study programs. If you are interested, you should inquire several months in advance of the time you anticipate beginning a job.

The staff can also assist you in developing employability skills through workshops and videos which teach effective resume-writing, job-search techniques, and interviewing skills.



Planetarium

Location: Main Building
B-203

Phone: 686-9412 or
686-9414

Across from East Main Entrance

Over 100 shows are featured each year in Delta's Planetarium, which serves students, individuals, and school and community groups. Approximately 70 persons can be seated for each show. Admission is free and shows must be scheduled at least one week in advance. The Planetarium is open Mondays through Fridays. If you're interested, phone for details.



Police Department

Location: Main Building
Room B-102

Phone: 686-9111

Across from East Main Entrance

If you should need their assistance, the officers of the Campus Police Department are available to you 24 hours a day, seven days a week. They are all certified by the Michigan Law Enforcement Officers Training Council and are Deputy Sheriffs of Bay County. They are charged with the enforcement of all College rules and regulations; rules of student conduct; State, federal, and local laws; and the investigation of crimes and accidents. Their services include: protection of persons and property; traffic control and enforcement; enforcement of parking regulations; public and motorist assists; crime prevention and prevention programs and information; operation of the College Lost and Found; and emergency first-aid.



Pre-School Center

Location: Y-Building
Northeast of Main Building

Phone: 686-9334

If you have children between the ages of 2 1/2 and 6 who need quality child care, the Pre-School Center may be your answer. The Center provides a balanced schedule of daily activities based on the developmental needs of pre-school children, including intellectual stimulation, emotional stability, large motor activity, rest, and nourishment. Child care is available during the Fall and Winter Semesters, serving the children of Delta students first, and the children of faculty and staff as space permits. Contact the Pre-School Center for details and fees.



Records and Registration Office

Location: Main Building
A-Wing

Phone: 686-9305, Records
686-9397, Registration

You will want to get acquainted with the services of the Records and Registration Office, because you will need to use them often during your enrollment at Delta. Some of those services include: conducting phone and on-Campus registration, processing adds and drops, mailing grade reports, filling transcript requests, evaluating transcripts from other colleges for possible Delta credits, certifying for graduation, and providing diplomas.

For details about registration, adding courses, and dropping courses, see Section II, The Enrollment Process, Registration.

For details about grades, transcripts, and graduation, see Section IV, Academic Policies and Information.

For details regarding acceptance of transfer credit, see Section IV, Academic Policies and Information, Acceptance of Credits.



Recycling Program

Location: Physical Plant Office
A-199

Phone: 686-9209

As a student at Delta College, you'll have the opportunity to participate in the College recycling program. Delta College is involved in the collection of computer paper, newspaper, and mixed office paper. Collection bins are conveniently located throughout the Campus. A successful recycling program requires the cooperation and dedication of everyone on Campus. For an information packet listing recyclables and collection sites, stop in or phone the Office. It's our environment! Let's take care of it!



Speaker's Bureau

Location: College Relations Office
Main Building
A-196

Phone: 686-9490

To assist you with programming for your club or organization, Delta College faculty and staff members are available free of charge to speak on a variety of topics in areas such as the arts, community issues, political issues, economic issues, and many more. Take advantage of this service and provide quality programming for your group.



Teaching/Learning Center (TLC)

Location: Main Building
Southeast End
Lower East Concourse

Phone: 686-9314

If you are looking for assistance in successfully meeting your educational goals, look into the services of the TLC. These services are designed to help you make the educational process as rewarding and effective as possible. All services are free.

An experienced staff provides help with reading/study skills, mathematics, and specific assignments, and assists you with learning how to make your studying more effective, whether or not you are having difficulty with your courses. Special services are available to learning disabled/dyslexic students.

Peer tutoring is also available to you and is offered in three ways: one-on-one, walk-in, and through a special peer mentoring program that assigns a tutor to a class. Every effort will be made to find a qualified tutor for you if you need help. Student tutors must meet stringent criteria to make sure that you will benefit from the experience. Except in cases when certain equipment is required, tutoring is done in the Teaching/Learning Center.

The TLC also offers workshops each Fall and Winter Semester. Topics include: general study skills, test-taking, note-taking, writing research papers, test anxiety reduction, time management, math anxiety reduction, and memory techniques. Other services include providing hand-outs on topics such as study skills, memory, and summary-writing, and making available typewriters, computers (IBM and Apple), VCR's, video's, and computerized learning packages for your use.

All services are also available in varying degrees at the Midland Center, the Ricker Center, and First Ward.



Telelearning Networking Services (TNS)

Location: Main Building
A-61
Lower West Concourse

Phone: 686-9398

TNS delivers instruction, information, and professional development through telecommunications technologies, electronic media, and information systems to learners at various locations.

If you are interested in taking courses via telelearning, see Section VI, Academic Course Descriptions, for details about various delivery systems. Other services offered by TNS include:

Teleconferences (Videoconferences): Live, interactive programs/meetings transmitted via satellite, designed to meet the informational, educational, and training needs of geographically-dispersed audiences in business, industry, government, and education. Professionals are provided up-to-date information, meet with experts, engage in local discussions, and call in questions to the presenters.

Satellite Resource Programs: Live or taped teleconferences, seminars, workshops, meetings, and resource programs from around the world.

Audioconferencing: Facilitates live, interactive conferences, meetings, and class discussions over the phone lines with individuals or groups at various locations.

For details of all TNS services, contact the Telelearning Office.



Theatre

Location: Fine Arts Building
S-209

Phone: 686-9440

If you enjoy being on the stage, either acting or working behind the scenes, then you'll want to get involved in Delta's Theatre productions. Theatre at Delta has had a long and varied history since the early days of the College. There are usually two productions each year, one in the fall and one in the spring. Auditions are posted in time for you to plan your classes to include your extra-curricular theatre activity. Over the years, such plays as the Diary of Anne Frank, Raisin in the Sun, The Fantastiks, Oliver, Snoopy, Brigadoon, The Miracle Worker, and Rumpelstiltskin have been performed.



Veterans Services

Location: Main Building
A-101

Phone: 686-9465

If you are a veteran, you will want to be sure to visit this Office. The staff of veteran-students understands your needs and will assist you in obtaining your veterans' educational benefits. They also provide information regarding college credit for your military training/experience, loans, and helping services and/or any other entitlements allowed through the U.S. Department of Veterans Affairs. See Section II, The Enrollment Process, Veterans/Reservists Information for further details.



Volunteer Services

Location: Main Building
Lower East Concourse

Phone: 686-9336

If you want to have your own life enriched while contributing to the fulfillment of the needs of others, you'll want to take advantage of the service learning opportunities provided by the Volunteer Services Office. Volunteer Services are provided through a partnership with the Voluntary Action Centers of Bay, Midland, and Saginaw counties. You will be placed in community and College work settings which will broaden your educational and work experiences, give you on-the-job insight into a career, contribute to the betterment of the community, and build your self-confidence. It's an experience you won't want to miss.

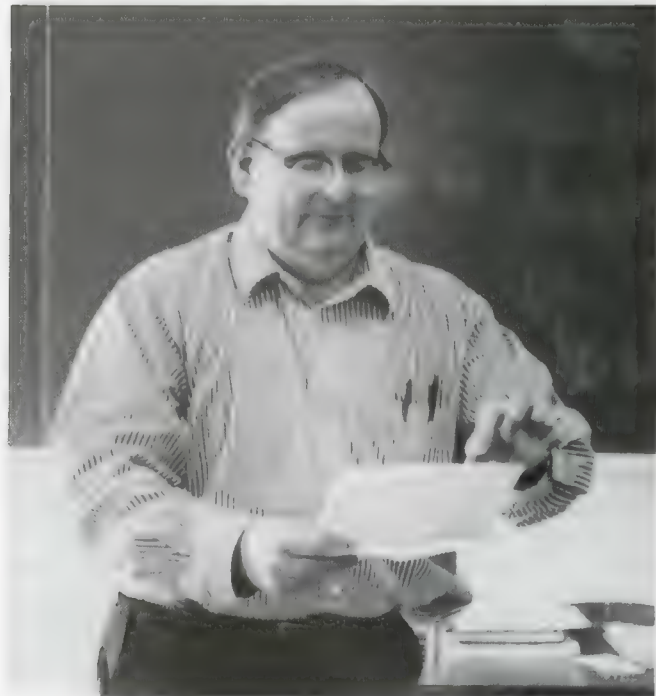


Welcome Center

Location: Main Building
C-130
Between C & D Wings

Phone: 686-9093

Looking for the location of an on-Campus activity? Wondering how to get to one of our Off-Campus Centers? Have some general questions about Delta? Stop in at the Welcome Center. You will receive a friendly greeting, be provided with directions and Campus maps, and find out where to go for what. You will be able to obtain an overview of our wide variety of program offerings, events, and workshops and learn more about College services. Generally, all information about Delta College that you, as a visitor or prospective student, might want or need is available at the Welcome Center. In addition, they will provide Campus tours.



"I love my job!"

"We have a lot of freedom to be as creative in class as we can be. The faculty are allowed input into course guidelines, so they can follow an outline but still put their own, personal spin on the way the course is taught.

Delta students are real people, not the select group that you might find at a big university. I like to look around my classes and see the different shapes, colors, and sizes of the students. These students are real life, which makes the situation more interesting to me."

Robert Mee,
Associate Professor of Spanish,
has taught at Delta for 25 years

Clubs and Organizations

Look over the following clubs and organizations that are available for your participation and see if there is something that appeals to you. If there isn't, but you would like to start a group that addresses your interests, you can do that too. For information about our current clubs and organizations or to start a new one, contact the Office of the Vice President of Student Services located in A-119 in the Main Building.

Collegiate

The Delta Collegiate is our award-winning student newspaper, which is published weekly during the Fall and Winter Semesters. It is distributed free in the College Commons and other locations throughout the College.



Delta Epsilon Chi (DECA)

DECA is a national business association for college students with career objectives in marketing, merchandising, and/or management. The purpose of DECA is to enhance the value of education in these areas which will contribute to occupational competence and promote understanding and appreciation for the responsibilities of citizenship in our free enterprise system.



International Student Organization

The International Student Organization was founded to meet the social and cultural needs of international students at Delta. Emphasis is on supporting the international students while giving American students the opportunity to experience other cultures and countries.



Inter-Varsity Christian Fellowship

The Inter-Varsity Christian Fellowship provides a place for the encouragement and challenge of Christian fellowship and Bible study.



Judo Club

The Judo Club promotes both the art and sport of Kudokan Judo through studying Judo and participating in competitions.



Legal Assistant Association

This Association serves as a communication link between Legal Assistant students, alumni, and faculty outside the classroom, providing students with an opportunity to network with other legal professionals and helping to develop high standards and credibility for the Legal Assistant Program and the paralegal profession.



Phi Theta Kappa International Honor Society

Phi Theta Kappa is the largest honor society for two-year colleges. It promotes scholarship, leadership, service, and fellowship among its members as well as for the College and the community.



Respiratory Care Association

This Association promotes the profession of respiratory care and the increased awareness of pulmonary health care.



Student Pugwash, U.S.A.

Student Pugwash, U.S.A. promotes the socially-responsible application of science and technology in the 21st-century. It encourages members to examine the ethical, social, and global implications of science and technology, so as to make those concerns a guiding force in their academic and professional endeavors.







JOB
PLACEMENT
CENTER

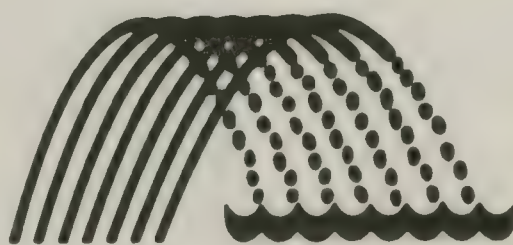


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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

THE ACADEMIC COURSE DESCRIPTIONS

1. Academic Course Information
2. Academic Course Abbreviations
3. Academic Course Descriptions



DELTA COLLEGE
WE ARE YOUR OPPORTUNITY

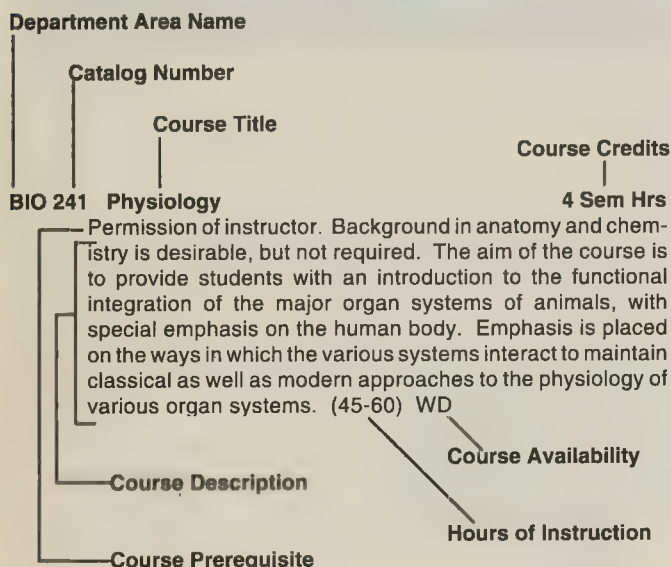
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VI

Academic Course Information

Courses listed in this section are those which Delta College is approved to offer; however, inclusion of a course does not obligate the College to offer the course in any particular semester or year. Most of the courses listed will be offered at least once during a complete academic year. A schedule of courses is published in March for the Spring/Summer Semester, in early April for the Fall Semester, and by early November for the Winter Semester. **Courses in this section, as well as in the Schedule of Academic Classes booklet published each semester, are listed in alphabetical order by subject area name according to three-digit course numbers.**

An Example



Course Credits

1. Each course is assigned a number of credits which generally indicates the number of hours per week the course meets. Courses with labs and occupational courses, however, generally meet more hours than the number of credits they carry.
2. Tuition rates are assessed on a per-credit-hour basis, and vary depending on your residency classification. Total tuition for each course must be paid at registration time.

Course Prerequisites

1. Requirements which must be met or courses which must be taken before enrolling in a specific course are listed as a Prerequisite at the beginning of each course description.
2. Courses not having a prerequisite stated may be taken by any student.

Course Descriptions

1. Below each course number and title, a brief course description is provided. You should read this description carefully to be sure you are qualified to take the course and that the course content meets your needs and interests. If you need additional information, you may contact the Chair of the Division which offers the course or the course instructor.
2. Instructors often give supplemental course information (i.e., course outline, syllabus, tasks and competencies, etc.), during the first week of classes, so students will know specific course procedures, grading criteria, and course objectives. Circumstances such as illness, inclement weather, class composition and size, or the introduction of timely material may necessitate some adjustments. The College recognizes the right of the faculty member to exercise professional judgment in making such adjustments.

Hours of Instruction

The numbers given within parentheses at the end of each course description indicate the total number of hours each course will be scheduled within a semester. The first number specifies total lecture hours and the second number specifies total laboratory or clinical hours for the course. Skilled Trades courses, however, only have one number (clock hours), since lecture and laboratory hours have been combined.

Course Availability

The letter codes at the very end of the course descriptions designate the semester in which the course is usually offered and/or whether a course is offered only during day or evening hours.

A All Three Semesters	D Day Hours Only
F Fall Semester	E Evening Hours Only
W Winter Semester	O Occasionally or On Demand
S Spring/Summer Semester	if sufficient enrollment develops

Course Numbering System

All Delta College academic courses have a three-digit course number. The Schedule of Academic Classes booklet, which is published prior to each semester, lists courses in alphabetical order by subject area name according to these three-digit course numbers.

1. Courses within the 100-199 series generally represent freshman-level courses; however, these courses may also be taken by sophomores.
2. Courses within the 200-289 series are intended primarily for sophomores; however, these courses may be taken by freshmen having the necessary prerequisites.
3. Courses within the 290-299 series designate special courses as follows: 291 Independent Study (arranged on an individual basis between student and faculty member; see Independent Study Course Information, page 103); 292-299 Special Topics/Seminars (such courses will be offered as regular courses upon demand or to meet the special needs of some programs).

Honors Course Sections

Honors courses will incorporate all regular course content with added emphasis on individual learning styles, the process of learning, and the creation of products. You will be involved in problem-solving, analyzing, synthesizing, and evaluating at a higher level of abstraction. You will be expected to be more self-directed with a goal of understanding the theoretical base of the subject matter. If you enroll in honors courses, you will receive an "H" on your transcript.

Independent Study Course Information

Independent Study refers to enrollment in an appropriately-designed, variable-credit course for a specific plan of study, authorized and supervised by a consenting faculty member. Independent Study is not a substitute for regular courses, but an enrichment opportunity. Normally, it is a project designated to allow you to investigate an area of interest not within the scope of a regular course, to probe more in depth than is possible in a regular course, or to obtain an educational experience outside that normally offered by a regular course.

Guidelines for an Independent Study course are:

1. **Proposals:** The Independent Study project is normally student-initiated. Early interaction with faculty is essential in the development of a mutually-acceptable project description. At a minimum, such a description should contain an outline of the study topic, specification of the work to be done and the materials to be read, the credit to be given, the type and frequency of faculty-student contacts, and a statement of the evaluative criteria to be used by the faculty member.
2. **Approval Process:** The faculty member must accept and approve the project and then submit the agreed-upon proposal on the appropriate form to the Department Chair for approval. The granting of approval by the Department Chair may involve considerations, such as faculty workload, which go beyond the merits of the project. If the Chair approves, information copies of the form are then submitted to the Academic Dean and the Director of Records. The student may register for the project after the authorization form is received by the Director of Records.
3. **Responsibility:** Independent Study is basically a tutorial process, necessarily involving substantial faculty participation. Students are on their own when pursuing an Independent Study, because it involves no class meetings or formal lectures. The faculty member is the responsible custodian of the project, obliged to provide guidance, assistance, criticism, suggestion, and evaluation.
4. **Variable Credit:** With faculty approval, credit may vary from one to six credits.

International Travel/Study Courses

Delta College offers international travel/study courses on an annual basis. These courses are usually offered for four credits which include a combination of lecture and field experience in group international travel; however, since the length of travel time may vary from one to four weeks, the Academic Council has approved variable credit, depending on the length of the travel field experience. Consequently, travel/study courses may vary in credits from a minimum of one to a maximum of four. These courses are numbered 268 and may be taken in various disciplines; i.e., BIO 268, ECN 268, SOC 268. The specific country/region of focus will be listed after the course number and title (SOC 268 International Studies: Australia). You may register for only one travel/study course per trip. You should consult a counselor regarding the transferability of total credits earned through international study and travel.

Delta College reserves the right to alter, add, or delete course numbers, titles, credit hours, lecture and/or lab hours, and descriptions before expiration of this publication.

Non-degree credit courses offered by Community Services (Section III, Programs of Study, Non-Degree Programs and Activities) are described in their Community Services Schedule of Classes, which is published prior to the beginning of each semester.

Learning Community Courses

Learning community courses are courses in which:

1. Disciplines are taught together (for example, literature with history, calculus with physics, criminal justice with psychology) so that the connections between them are clear.
2. You can work with other students on activities and projects.
3. You can interact with other students and teachers and be part of a closely-knit, supportive community of learners.
4. You may experience a variety of learning modes such as participating in large and small group discussions, working on activities and projects, taking field trips, and hearing lectures.
5. Students and teachers work closely together, contributing what they already know and seeking new knowledge.
6. You get to express your thoughts and ideas and to hear those of your fellow students.
7. You can gain self-confidence about yourself as a student, a thinker, a reader, a writer, a speaker, a listener.

These courses combine at least two different disciplines or areas in order to show the connections between them. They are taught by at least two instructors, each from the different disciplines or areas included in the course.

Each semester, Delta College publishes a complete list of learning community courses in the Schedule of Academic Classes booklet.

Telecourses

In addition to traditional teaching methods, Delta College offers telecourses each semester that make it possible to earn college credit in your home.

You need not come to Campus except for a few scheduled meetings (orientation, mid-semester evaluation, and final evaluation).

You may apply college credits earned through telecourses to an Associate degree program. In most cases, these credits will transfer to other colleges and universities.

If you are a veteran or on financial aid, you should check with your counselor prior to enrolling in a telecourse. Each semester, Delta College publishes a complete list of telecourse offerings in the Schedule of Academic Classes booklet and the Community Services Schedule of Classes.

Academic Course Abbreviations

Courses in this section, as well as those in the Schedule of Academic Classes booklet published each semester, are listed in alphabetical order by department areas.

The subject area abbreviation appears on students' grade reports and official transcripts.

Abbreviation Department Area

ABS	Applied Behavioral Studies
ACC	Accounting
AGM	Auto Service Education Program (ASEP)
AGR	Agricultural Enterprise
AIB	American Institute of Technology
ARC	Architectural Technology
ART	Art
AUT	Automotive Service
AVI	Aviation
BIO	Biology
BRT	Broadcasting and Telecommunication
CAD	Computer Assisted Drafting
CD	Child Development
CED	Cooperative Education
CHM	Chemistry
CIS	Computer Information Systems
CJ	Criminal Justice
CNC	Computer Numerical Control
CPS	Computer Science
CRM	Credit Union Management
CT	Chemical Technology
DA	Dental Assisting
DH	Dental Hygiene
DRF	Drafting
ECN	Economics
ED	Education
EET	Electronic Engineering Technology
EGR	Engineering
EMT	Emergency Medical Technician
ENG	English
EST	Electronic Service Technology
FM	Fashion Merchandising
FR	French
FST	Fire Science Technology
GAT	Graphic Arts Technology
GB	General Business
GE	German
GEO	Geography
GLG	Geology
HIS	History
HSC	Health Science

Abbreviation Department Area

ID	Interior Design
IHU	Interdisciplinary Humanities
IS	Industrial Supervision
LAS	Legal Assistant
LD	Dyslexic/Learning Disabled
MA	Medical Assistant
MS	Machine Tool Operations
MT	Mechanical Technology
MTH	Mathematics
MUS	Music
NA	Nanny
NHA	Nursing Assistant/Home Health Aide
NUR	Nursing
OSE	Office Systems Education
PE	Physical Education Activity
PEH	Physical Education & Health Education Theory
PHL	Philosophy
PHO	Photography
PHY	Physics
PNE	Practical Nursing Education
POL	Political Science
PSC	Physical Science
PSY	Psychology
PTA	Physical Therapist Assistant
QA	Quality Assurance
RAD	Radiography
RC	Residential Construction
RE	Real Estate
ROB	Robotics
RT	Respiratory Therapy
RUS	Russian
SA	Substance Abuse
SFA	Surgical First Assistants
SK	Skilled Trades
SL	Sign Language
SCI	Interdisciplinary Science
SOC	Sociology
SPA	Spanish
SPH	Speech
ST	Surgical Technology
WWT	Water/Wastewater
WELD	Welding

An Employer's Opinion

"We have gotten very good employees from Delta College. They are able to do the job from the first day. They also bring with them a good work ethic, which is very important to us. We've worked with other schools, but the Delta referrals have been most successful."

Mr. Robert Starck • Paragon Dye and Engineering • 5225 33rd Street SE • Grand Rapids, MI 49512

Academic Courses

Applied Behavioral Studies Courses ♦♦♦♦♦

ABS 101 Skills for College Success 1 Sem Hr

Designed for those students who desire to acquire or improve their learning strategies which may increase their change of success in their college course-work. Through the incorporation of motivational strategies and learning theories, students will be taught study techniques, test and note taking skills, time management methods; as well as how motivation, awareness of learning styles, and the use of support services can positively impact on a successful college experience. Credit may be earned in either ABS 101 or 108 but not both. (15-0) A

ABS 102 Job Search Methods 2 Sem Hrs

Aids students in securing the jobs they seek. Course content covers skill and abilities identifications, filling out applications, writing resumes and cover letters, interviewing, networking and other techniques used in securing employment. Classroom discussions normally deal with personal attitudes toward job hunting and identifying job leads in the "hidden job market. (30-0) FW

ABS 103 Career Decision Making 1 Sem Hr

A group seminar to help students discover and actualize their unique capabilities, strengths, talents, and abilities. The seminar will enable each student to learn about the variables that are important in making an occupational decision. (15-0) A

ABS 104 Behavior Change I 1 Sem Hr

A seminar class based on theories of social behavior analyzing the thoughts, ideas and assumptions that are part of the American socialization process. Students are introduced to the symbolic interactionist theories of James, Mead, Cooley, Goffman and others and how these theories explain the development of the social self. (15-0) A

ABS 105 Behavior Change II 1 Sem Hr

Prerequisite: ABS 104. A continuation of the study of the social self and the process of socialization as the development of a belief system through exploration of other social behavioral theorists (e.g., Glasser, Ellis, Perls, Mead, Benedict, Merton, Thomas). The focus is on how one's socialization can positively or negatively effect the results one experiences by their "self fulfilling prophecies" and their "definition of the situation." (15-0) FW

ABS 108 Becoming a Master Student 2 Sem Hrs

Designed to assist students with developing skills necessary to succeed in college. Some topics to be covered include time and stress management, study skills, note taking, improving concentration and memory, test-taking, communication and self-concept development. Credit may be earned in either ABS 101 or ABS 108 but not in both. (30-0) A

ABS 290-299 Special Projects in Applied Behavioral Science

Accounting Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

ACC 111 Introductory Accounting 4 Sem Hrs

Basic accounting practices and procedures, including journalizing, posting, preparation of financial statements, special journals, subsidiary ledgers, petty cash fund, bank reconciliation, and payroll accounting. Completion of a practice set is required. Transfer students should take ACC 211. Credit may only be earned in either ACC 111 or in 211 but not in both. (60-0) A

ACC 115 Applied Tax - H&R Block 5 Sem Hrs

A practical course dealing with mastery of current tax law. Students apply their knowledge by constant completion of federal and state forms relating to such topics as deductions, credits, self-employment, farms, rentals, pensions and capital gains. H&R Block issues a Certificate of Accomplishment to students who average grades of 70% or more in the course. (75-0) FW

ACC 211 Principles of Accounting I 4 Sem Hrs

Prerequisite: MTH 107 or equivalent or concurrent enrollment. An introduction to the basic concepts of accounting principles. Includes the accounting cycle for service and merchandising businesses, internal control, accounting for accounts and notes receivable, inventories, long-term asset, current liabilities, payroll, and partnerships. Completion of a practice set is required. Credit may only be earned in either ACC 111 or in 211 but not in both. (60-15) A

ACC 212 Principles of Accounting II 4 Sem Hrs

Prerequisite: ACC 211 with a C (2.0) minimum grade. Includes a study of corporation basic theory and methodology, statement of cash flows, accounting for manufacturing operations, and accounting data as used in performance measurement, decision making, planning, and control. (60-15) A

ACC 214 Microcomputer Accounting Applications 4 Sem Hrs

Prerequisite: CIS 133 and ACC 111 or ACC 211. An introduction to microcomputer applications in general ledger, accounts receivable, accounts payable, payroll, and inventory/invoicing. Electronic spreadsheet applications will be developed using appropriate software. Outside laboratory assignments will be given. (60-0) FW

ACC 215 Federal Tax Accounting 3 Sem Hrs

Prerequisite: ACC 212. Studies the Federal income tax law. Emphasis is placed on the application to the individual and the single proprietorship business, although some references are made to the corporation. Individual tax returns are prepared both manually and by computer. (45-0) FW

ACC 223 Accounting Practices/Working Capital 4 Sem Hrs

Prerequisite: ACC 212 with a C (2.0) minimum grade and ACC 214. Study of current assets and current liabilities. Includes journalizing, in-depth study of cash and internal control, receivables, current liabilities, error analysis, statement analysis, payroll taxes, and sales tax. Completion of three major projects is required. (60-0) F

ACC 224 Accounting Practices/Long-Term 4 Sem Hrs

Prerequisite: ACC 212 with a C (2.0) minimum grade and ACC 214. Study of long-term assets and equities. Includes journalizing, plant assets, depreciation, notes, stockholders' equity, time value of money, error analysis, statement analysis, and statement of cash flows. Completion of three major projects is required. (60-0) W

ACC 227 Intermediate Accounting I 4 Sem Hrs

Prerequisite: ACC 212 with a C (2.0) minimum grade. Accounting processes, theory, and principles. Financial statement presentation, valuation of current assets, property plant and equipment, current liabilities and time value of money. Designed for Northwood University 3+1 students. (60-0) F Odd years only.

ACC 228 Intermediate Accounting II 4 Sem Hrs

Prerequisite: ACC 212 with a C (2.0) minimum grade. Equity accounting including stockholders equity, EPS, income taxes, pensions, leases, accounting changes, revenue recognition, investments, financial statement analysis, long-term liabilities and statement of cash flows. Designed for Northwood University 3+1 students. (60-0) W Even years only.

ACC 233 Cost Accounting 3 Sem Hrs

Prerequisite: ACC 212 with a C (2.0) minimum grade. Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the formulation of reports to management. Includes job order, process, standard, direct and budgetary costing procedures. (45-0) FW

ACC 235 Financial Management 3 Sem Hrs

Prerequisite: ACC 212 with a C (2.0) minimum grade. Study of the theoretical and conceptual framework for financial decision making. Role of the finance function and its relevance to business management is emphasized. Includes financial forecasting, leverage, current asset management, short-term financing, valuation of stocks and bonds, cost of capital, capital budgeting, and long-term financing techniques to maximize the value of the firm. (45-0) FW

ACC 290-299 Special Projects in Accounting

Auto Service Education Program (ASEP) Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

AGM 160 Minor Vehicle Service 2 Sem Hrs
An introduction to the components and operating principles of the automobile. Emphasis is placed upon job orientation, safe work habits, and the opportunity to learn accurate and accepted methods in the performance of minor services. (10-30)

AGM 161 Introduction to Electrical Circuits 2 Sem Hrs
Emphasis is on electrical fundamentals and their practical application, an opportunity to build a skill base, allowing accurate testing of electrical and magnetic components of the automobile. (20-15)

AGM 162 Engine Service 5 Sem Hrs
Prerequisite: GM Dealership sponsor. The major emphasis of this course will be toward engine servicing, which is necessary for engine repair and maintenance. Instructional units include the design, construction, and operation of gasoline and diesel engines. (35-105)

AGM 167 Air Conditioning 2 Sem Hrs
Prerequisite: AGM 161. Topics covered include nomenclature, theory of operation, diagnosing of systems, methods of service with emphasis on use of tools and equipment necessary to determine malfunctions, service components and place unit back in service. (21-21)

AGM 170 Dealership Work Experience I 1 Sem Hr
Prerequisite: GM Dealership sponsor and AGM 160, 162. The time period required for this course will be ten weeks, forty hours per week. Emphasis is on skill derived through on-the-job experience at the sponsoring dealership. (0-400)

AGM 183 Specialized Electronics Training 4 Sem Hrs
Prerequisite: AGM 161. An opportunity to gain a basic understanding of the advances in electronic systems of modern vehicles. Covers basic electron theory to advanced systems such as solid state microprocessors. Surveys recent developments rather than providing service skills. (60-12)

AGM 187 Electronic Engine Control and Driveability 9 Sem Hrs
Prerequisite: AGM 162. A study of complete emission systems, carburetor circuits, fuel pump functions, fuel injection, electronic ignition systems, engine tuneup and driveability. Emphasis on computerized engine control, and the use of accurate and complete methods in the performance of engine tuneups. (60-180)

AGM 190 Dealership Work Experience II 1 Sem Hr
Prerequisite: GM Dealership sponsor and AGM 170. The time period required for this course will be nine weeks, forty hours per week, following the second semester. Emphasis is on skill development derived through on-the-job experiences at the sponsoring dealership. (0-360)

AGM 260 Suspension Systems 5 Sem Hrs
Prerequisite: GM Dealership sponsor and AGM 160, 162. The student will have an opportunity to learn through instructional units associated with the nomenclature and operating principles of steering and suspension systems. Wheel alignment geometry, adjustment methods, and operation of alignment equipment form an integral portion of this course, with emphasis placed on methods of adjustment and repair necessary for quality steering and suspension service. (32-112)

AGM 265 Applied Body Electrical 2 Sem Hrs
Prerequisite: AGM 183. A study of diagnosis of malfunctions within accessory and convenience circuits with emphasis on turn signals, hazard warning, windshield wipers, power seats, power windows, power antenna and climate control. (24-24)

AGM 270 Dealership Work Experience III 1 Sem Hr
Prerequisite: AGM 190 or 170. A ten week, forty-hour per week internship with emphasis placed on skill development through on-the-job experiences with the sponsoring dealership. The skill development emphasized during this training experience should be in suspension components, alignment, and convenience circuit services. (0-400)

AGM 272 Automatic Transmissions 8 Sem Hrs
Prerequisite: AGM 162. The functional service skills for automatic transmissions and transaxles including nomenclature, fundamentals of operation, and diagnosis of malfunctions, and electronic controls. Major emphasis is on the use of special tools and equipment necessary in diagnosis and repair. (64-144)

AGM 280 Dealership Work Experience IV 1 Sem Hr
Prerequisite: AGM 270 or 190. A fifteen-week, forty hour per week internship with emphasis placed on skill development through on-the-job experiences with the sponsoring dealership. The skill development emphasized during this training experience should be in driveline, automatic transmission and transaxle diagnosis and services. (0-600)

AGM 284 Brake Systems 4 Sem Hrs
Prerequisite: GM Dealership sponsor and AGM 160, 162. A study of service methods by understanding the nomenclature and operating principles of the hydraulic and mechanical systems of shoe and disc brake assemblies. Units of instruction will emphasize repair procedures on brake system components necessary for quality brake system servicing. (25-75)

AGM 286 Drivelines and Manual Transmissions 3 Sem Hrs
Prerequisite: AGM 162. The nomenclature, fundamentals of operation, and diagnosis of malfunctions with emphasis on service operations of clutches, standard transmissions, standard transaxles, driveshafts, driveaxles and differentials. (15-45)

AGM 287 Customer Service Advising 2 Sem Hrs
Prerequisite: GM Dealership sponsor and AGM 160, 162. A study of the arrangement, managerial structure, and operational characteristics of the service floor of an automotive service facility. The student will have the opportunity to learn the basic concepts necessary for success as a professional service advisor through units of instruction oriented towards customer interviewing, service merchandising, warranty interpretation, and repair service scheduling. (30-0)

AGM 288 Dealership Work Experience V 1 Sem Hr
Prerequisite: GM Dealership sponsor and AGM 287. The time period required for this course will be ten weeks, forty hours per week, following your fifth semester. Emphasis is on skill development derived through on-the-job experiences at your sponsoring Dealership. (0-400)

Agricultural Enterprise Courses ♦♦♦♦♦♦♦♦♦♦

AGR 140 Farm Business Management 2 Sem Hrs
Basic principles of planning and management of land, labor, crops, livestock, equipment and buildings to insure a successful farming business. (30-0)

AGR 150 Agricultural Computer I 2 Sem Hrs
Provides the farm record keeper or agribusiness manager a familiarity with the use of a personal computer for business operations. Emphasis is on developing basic skills on the MS-DOS system. A firm accounting package and several other farm programs are covered. (30-0) WS

AGR 151 Agricultural Computing II 2 Sem Hrs
Prerequisite: AGR 150 or PC Familiarity. Provides the farm record keeper or agribusiness manager skill in the use of a personal computer for business decisions. Applications are extended to the use of a spreadsheet, data filer, and farm record keeping. Programs specific to class needs are emphasized. (30-0) WS

AGR 160 Agribusiness Management 3 Sem Hrs
Provides a working knowledge of the agribusiness system including input supplies, production agriculture, marketing and processing. (45-0) O

AGR 190 Equine Management 2 Sem Hrs
Introductory course in the basic principles of horse care and management. Topics include selecting a horse, tack, breeds, nutrition, handling, equipment, grooming, care, safety, illnesses, first aid, showing, riding techniques, breeding and facility construction. Satisfies needs of prospective horse owners, the recreational rider or those interested in a career in equine science/management. Credit may be earned in AGR 190 or PEH 190 but not in both. Fee required. (30-0) O

AGR 205 Agricultural Marketing I: Domestic & Global 3 Sem Hrs
A study of marketing agricultural commodities. Covers bankers' view points, hedging, world markets, Michigan markets, niche marketing, weather and the role it plays, and other marketing alternatives. Course concludes with a trip to Chicago Board of Trade to watch the market work first hand. (45-0) WE

AGR 206 Agricultural Marketing II: Domestic and Global 3 Sem Hrs
Prerequisite: AGR 205. More in-depth study of commodities marketing. Helps plan strategies and alternatives to the common marketing practices. Emphasis on national policies and foreign country agricultural economies. Optional trip to USDA, Washington, D.C. (45-0) WE

AGR 208 Futures Market/Technical Analysis 1 Sem Hr
Prerequisite: AGR 205 or instructor's permission. The study of market action using mathematical and chart displays for the purpose of forecasting price trends. Includes chart interpretation, moving averages, and computer programs in evaluation of futures market direction. (16-0) WE

AGR 210 Agricultural Finance 3 Sem Hrs
Provides the farmer or agribusiness manager the basic finance and accounting skills to operate a farm business. Upon completion of the course participants know how to put together information needed to obtain financing and keep records to accurately assess their financial implications of expansion of the farm business and other areas which will directly and indirectly affect the financial statement. (45-0) WE

AGR 215 Agribusiness Law 2 Sem Hrs
Prepares farmers and agribusiness owners for better dealing with the legal aspects of interactions with banks, other agribusinesses, lawyers, the courts, and the government. Topics covered are wills and estates, lending, liens, bankruptcy and restructuring, farm worker laws, contracts and transactions, and an introduction to the court system. (30-0)

AGR 218 Agriculture & the Environment 2 Sem Hrs
The laws and regulations pertaining to environmental issues in agriculture are interpreted for farmers and agribusiness leaders. Technical information is provided on pesticide effects in the environment and water quality. Legal defenses for farmers are discussed, as are improved cultural practices, and health and safety tips. Experts from the DNR and the MDA will provide opinions. (30-0) O

AGR 220 Fundamentals of Soil Science 2 Sem Hrs
Emphasizes physical and chemical properties of soil, soil formation and classification, and survey of essential plant nutrients and their availability in soils. Both theoretical and practical aspects of soil fertility are studied. Farmers and nurserymen can relate topics of soil testing/interpretation and uses of appropriate types and amount of fertilizer to maximize long-term soil productivity. (30-0) O

AGR 221 Soil Science 2 Sem Hrs
Prerequisite: CHM 101 or 111. Physical and chemical properties of soil, soil formation and classification, and survey of essential plant nutrients and their availability in soils. Both theoretical and practical aspects of soil fertility are studied. Special project required. (30-0) O

AGR 232 The Dry Bean & Sugar Beet Industries 1 Sem Hr
Issues affecting the dry bean and sugar beet industries are presented in lectures and debated by experts. Field trips are used to observe the food marketing system from grower to grocery. (15-0) O

AGR 240 Woody Plant Identification I 3 Sem Hrs
Identification, culture and uses of important native and introduced trees, both shade and ornamental, found in Michigan. Familiarity of common problems associated with the plants and awareness of recommended cultivars are included. Field trips to local nurseries and parks provide living plant observation. (30-30) FE

AGR 241 Woody Plant Identification II 3 Sem Hrs
Prerequisite: AGR 240. Identification, culture and uses of important native and introduced shrubs and vines found in Michigan. Familiarity of common problems associated with the plants and awareness of recommended cultivars are included. Field trips to local nurseries and parks provide living plant observation. (30-30) WE

AGR 243 Tree Maintenance 3 Sem Hrs
Prerequisite: AGR 241. A comprehensive understanding of plant functions as well as cultural and horticultural practices as they relate to trees. Common tree insect and disease pests, along with physiological problems are addressed. (30-30) FE

American Institute of Banking Courses ♦♦♦♦

AIB 100 Introduction Commercial Lending 2 Sem Hrs
Focus on the commercial lending process and the skills loan officers need to service corporate clients. Course content will include the loan application process from application to collection, resolving loan problems, regulatory forces and legal structures that affect commercial lending, and developing a bank's commercial loan portfolio. (30-0) O

AIB 103 AIB Accounting I 3 Sem Hrs
Prerequisite: American Institute of Banking student or permission of instructor. Includes journalizing, posting, preparation of worksheets and financial statements, recording of uncollectible receivable, and inventory valuation methods. Completion of a practice set is required. Credit will not be granted to students who have received credit for ACC 111 or 211. May not be used as a substitute for ACC 111-211. (45-0) O

AIB 104 AIB Accounting II 3 Sem Hrs
Prerequisite: AIB 103. Designed specifically for students in the American Institute of Banking program. Includes depreciation methods, internal control, concepts and principles, partnerships, corporations, analysis of financial statements, and the preparation of a practice set. Credit will not be granted to students who have earned credit in ACC 111 or 211. (45-0) O

AIB 106 AIB Analyzing Financial Statements 2 Sem Hrs
Prerequisite: AIB 103. Designed specifically for students in the American Institute of Banking program. The course offers the student tools and techniques necessary for the evaluation of financial condition and operating performance of a modern business enterprise. The course is divided into four parts: Financial Statement Analysis and Accounting; Financial Statements and Business Funds Flow; Tools of Financial Statement Analysis; and The Technique of Financial Statement Analysis. The last part is subdivided into five modules, covering short-term liquidity and solvency, funds flow analysis, analysis of operations, long-term financial strength, and asset utilization. Credit will not be granted to students who have earned credit in ACC 212. (30-0) O

AIB 107 AIB Branch Management 3 Sem Hrs
Designed specifically for students in the American Institute of Banking program. Offers the student tools and techniques necessary for the evaluation of Branch Management Function. The course is divided into three areas: lending, focusing on legislation and rules of lending; management, theories and techniques; and operations, basic procedures and operational guidelines affecting tellers and customers. (45-0) O

AIB 108 Management of Commercial Bank Funds 3 Sem Hrs
Designed specifically for students in the AIB program. Offers the student tools and techniques necessary for evaluation of commercial business situations and their effect on maximum banking profit. The course is divided into three areas: present banking environment, business situations related to the bank and operational guidelines affecting management policy. (45-0) O

AIB 123 AIB Bank Investments 3 Sem Hrs
This course is designed to provide bankers in the field a broad overview of the nature of bank investment activities. The what and why of investments are stressed rather than the how, or the specific techniques by which the objectives are reached in each bank. (45-0) O

AIB 124 AIB Law and Banking 3 Sem Hrs
This course is designed to provide bankers in the field a broad overview of the nature of how the general law affects bankers and their transactions. The what and why of law are stressed rather than the how or the specific techniques by which the objectives are reached in each bank. (45-0) O

AIB 125 AIB Real Estate Finance**3 Sem Hrs**

This course is designed to provide bankers in the field a broad overview of the nature of real estate financing activities. The what and how of real estate financing are stressed rather than the how, or specific techniques by which the objectives are reached in each bank. (45-0) O

AIB 126 AIB Savings and Time Deposit Banking**3 Sem Hrs**

Designed specifically for students in the American Institute of Banking Program. Acquaints the student with the impact of banking deregulation, growth of money market funds, and competition from non-bank organizations with emphasis placed on deposit instruments rather than on deposit operations. (45-0) O

AIB 160 Principles of Bank Operations**3 Sem Hrs**

This course is designed to provide for beginners and newcomers in the banking field a broad overview of the nature of commercial banking activities. The what and why of banking are stressed rather than the how, or the specific techniques by which the objectives are reached. (45-0) O

AIB 170 Trust Functions and Services**3 Sem Hrs**

This course is a study of the many banking trust service responsibilities. It points out that each of the 50 states have procedural variations, preference for certain trust services, and operational differences. It keeps clear the distinction between business and legal aspects of trust functions. (45-0)

AIB 171 Credit Administration**3 Sem Hrs**

Prerequisite: AIB 160. This course is designed for persons following the Finance and Banking Curriculum. It prepares persons to properly handle loans and discounts in financial institutions. Students will study the many factors to be considered when formulating and administering a sound loan policy. (45-0) O

AIB 172 Bank Credit Cards**2 Sem Hrs**

Prerequisite: AIB 160. This course is designed for persons following the Finance and Banking Curriculum. The course is structured so that the student will gain an overall perspective of the role of the bank credit card in the American economy. The student will also be made aware of the basic operational problems involved in the successful management of a bank card plan. (30-0) O

AIB 173 Consumer Lending**3 Sem Hrs**

Prerequisite: AIB 160. Designed for persons following the Finance and Banking curriculum. This course presents the techniques of bank installment lending. Emphasis is placed on establishing the credit, obtaining and checking information, servicing the loan, and collecting the amounts due. Other topics presented are inventing financing, special loan programs, business development and advertising, and the public relations aspect of installment lending. (45-0) F

AIB 174 Negotiable Instruments and the Payment Mechanism**3 Sem Hrs**

Prerequisite: AIB 160 or approval of instructor. The objective of this course is to explore the relevant legal implications of normal activities and transactions in bank operations. The aim is to improve understanding of how the law operates within the framework of federal and state statutes, court decisions, and administrative regulations. (45-0) O

AIB 175 Financial Planning for Bankers**2 Sem Hrs**

Provides an overview of financial planning concepts and issues, applications of concepts to personal financial planning decisions, with special emphasis on employee roles in financial planning for consumers. (30-0) O

AIB 184 AIB Marketing for Bankers**3 Sem Hrs**

Designed specifically for students in the American Institute of Banking Program. Students should acquire a thorough understanding of basic marketing principles and theory and their practical application to the banking industry. (45-0) O

AIB 185 AIB Customer Relations**1 Sem Hr**

This course is designed specifically for students in the Finance and Banking Curriculum. The course focuses on building a conceptual framework that employees can use to analyze the customers' behavior, their own behavior, and the dynamics of a given situation. Hands on practice is provided in analyzing situations and developing alternative strategies for dealing with "tough," unhappy customers. (15-0) O

AIB 187 AIB Collectors Training**1 Sem Hr**

Designed specifically for students in the American Institute of Banking Program. Emphasis is placed on the financial relations aspect as a means to collect delinquent loans while aiding the banker in complying with the Fair Debt Collection Practices Act. (15-0) O

AIB 290-299 Special Projects in American Institute of Banking**Architectural Technology Courses ♦♦♦♦ ♦♦****ARC 101 Materials and Methods of Construction****3 Sem Hrs**

Introduction to basic construction materials; properties, recommended use, space requirements, methods of finishing, building code implications, and energy conservation applications. Credit may be earned in ARC 101 or RC 102 but not in both. (45-0) FD

ARC 105 Architectural Drafting I**4 Sem Hrs**

Fundamentals of architectural drafting including linework emphasis, lettering design, symbol applications, multiview projections relative to architectural drawings, one point perspective, two point perspective, graphic design elements, and presentation of floor plans, sections and elevations. Study of space requirements and method of representing basic residential elements. Introduction of CAD including demonstrations and basic procedures. Credit may be earned in ARC 105 or RC 109 but not in both. (45-45) FD

ARC 106 Architectural Drafting II**4 Sem Hrs**

Prerequisite: ARC 105 or permission of instructor. Introduction to construction drawing organization. Development of coordinated drawings for one small building with emphasis on application of notes, dimensions, and development of graphic skills. Includes a study of CAD techniques and the use of the computer for drawing production, storage and retrieval, development of selected architectural details relating to foundation, floor, wall, and roof assemblies, with emphasis on energy conservation. (45-45) W

ARC 107 Architectural Computer and CAD Applications**3 Sem Hrs**

Prerequisite: ARC 110 or CAD 114. Introduction to CAD using the micro and mainframe computer. Demonstrations and basic skill development in areas of menu driven software including light pen techniques, graphics tablets and keyboard input devices for drawing composition, storage and retrieval. Demonstration and use of spreadsheet, data base, and word processing software to aid in construction documentation and production. A study of selected commercial graphics software and BASIC graphics programming techniques. (45-0) FD

ARC 110 CAD System Orientation**2 Sem Hrs**

Prerequisite: ARC 105 or concurrently. An introduction to the lab, policy, procedures, software (Autocad), and hardware. Basic terminology and specific knowledge of software. Menu topics include point, line, arc/circle, file/terminate, data base management, entity control. Emphasis is placed on architectural designs. (30-0) FD

ARC 111 Mechanical and Electrical Systems for Buildings**3 Sem Hrs**

Fundamentals and operating principles of air conditioning, plumbing, and electrical systems; including typical layout, calculations, sizing, and methods of installation. Credit may be earned in ARC 111 or RC 206 but not in both. (45-0) WD

ARC 140 Introduction to Landscape Architecture**3 Sem Hrs**

Designed to acquaint students with principles, techniques, process and materials used in landscape architecture technology. Covers planting and residential design, terminology, cost estimates, construction methods and use of plant. (45-0) O

ARC 200 Spatial Analysis and Presentation**3 Sem Hrs**

Emphasis will be placed on the reading of "blueprints" from the viewpoint of the interior designer. The student will analyze and plan appropriate spatial arrangement given intended use, relationship to adjacent space and accepted standards; do basic drawing and presentations and present drawings of floor plans, interior elevations, and interior perspectives. Credit may be earned in ARC 200 or ID 200 but not in both. (45-0) WD

3 Sem Hrs

Principles of calculating quantities of material and costs of material and labor of building construction. Use of data base, word processing, and spreadsheet software and BASIC programming techniques to calculate and record estimate records. Reference to specifications, drawings, contracts, and the procedures used to arrive at building estimates. Methods of cost control during construction. Credit may be earned in ARC 204 or RC 202 but not in both. (45-0) WD

3 Sem Hrs

Prerequisite: ARC 106. Development of construction documents for a non-residential building. Introduction to concrete, masonry, and steel construction with their various detailing requirements, symbolisms, and characteristics utilized in installation of mechanical and electrical systems. Includes a study of computer-aided design examples. (0-90) F

3 Sem Hrs

Prerequisite: ARC 205. Development of sketches into preliminary and construction drawings. Use of CAD for design and drafting examples and production. Continued design and drafting of concrete, masonry, and steel construction. Integration of structural, mechanical, electrical, and solar strategies into commercial buildings. (0-90) W

3 Sem Hrs

ARC 207 Architectural Presentation Drawing
Prerequisite: ARC 105 or permission of instructor. Advanced development of graphic skills intended to advance abilities in freehand drawing, perspective, composition, and the use of water color and marker in architectural presentation drawing. (0-90) WD

3 Sem Hrs

Review of basic mechanics. Analysis of live and dead loads on simple structural members. Use and limitations of wood, steel and concrete handbooks in structural design. Use of structural calculations with microcomputers and calculators in solving basic structural problems. (45-0) FD

4 Sem Hrs

Prerequisite: ARC 211 or permission of instructor. A detailed study and practice of methods used in structural steel design, drafting, and fabrication. Includes load and stress analysis, structural framing and connection design, and drafting techniques used in the development of shop drawings. (45-30) O

3 Sem Hrs

Fundamentals of site analysis including a study of utility services, metes and bounds, solar access and restrictions. Elements of surveying including use of instruments, leveling, measurement of angles and distances, contours, location of site elements and development of a site plan from field data. Interpretation of engineering surveys. Introduction to landscape design. Includes a study of computer aided design examples. Credit may be earned in ARC 221 or RC 105 but not in both. (45-0) FD

3 Sem Hrs

A detailed study of the history, manufacture, characteristics and types of cement. Selection and design of concrete mixtures; sampling and testing plastic concrete; placing, finishing, and curing of concrete. Concreting during hot and cold weather. (45-0) O

4 Sem Hrs

ARC 254 Earth Sheltered Housing Design 3 Credits
Emphasis is placed on selecting appropriate materials for use below the Earth's surface. Various plan and section arrangements are explored and compared. Discussion of codes, zoning, energy efficiency, solar exposure, and human comfort will allow the student to discover the appropriate design requirements for building a dwelling with berm and earth covering. Examples of computer use in energy related performance studies will be illustrated. (60-0) O

ARC 290-299 Special Projects in Architectural Technology

Art Courses ♦♦♦♦♦

3 Sem Hrs

Designed for students not majoring in Art to provide an enriching experience to two- and three-dimensional media: to include drawing, painting, graphic media, clay and other sculptural media. It is designed primarily for the general degree student who wishes to have some art experience. There will also be an emphasis on art appreciation. (15-45)
FW

3 Sem Hrs

A beginning course in drawing designed for all students interested in the fundamentals of visual form and analysis of structure. Representational treatment of objects, forms, and volumes in line, value, and texture with a variety of media. (0-90) FW

3 Sem Hrs

Prerequisite ART 111. A continuation of ART 111 emphasizing composition and further understanding of the elements of drawing in relation to individual expression. Problems involve a variety of media. (0-90) W

3 Sem Hrs

ART 115 - Art Education I
Introduction to art for prospective teachers. Develops the ability to stimulate the creative interests of children in art. Acquaints the student with a variety of methods and materials adjusted to various grade levels. (0-90) FW

3 Sem Hrs

ART 114: Art Education II
Prerequisite: ART 113. A continuation of ART 113. Additional investigation of the theories of art education and creative growth of children. (0-90) O

3 Sem Hrs

Experimentation with the basic elements of design: line, form, space, value, textures, and color. A variety of media is used in developing a visual vocabulary and understanding of art elements and composition. (0-90) FW

3 Sem Hrs

A series of problems designed to explore the elements of design in spatial compositions using a variety of basic materials. (0-90) FW

3 Sem Hrs

ART 131 Art History and Appreciation I
Required of all first-year art majors. A survey of Western art from Prehistoric times to the Renaissance. Deals with major works and artists of the Prehistoric, Ancient, Classical and Medieval cultures. The emphasis is on the architecture and sculpture of these periods. (45-0) FW

3 Sem Hrs

ART 152 Art History and Appreciation II 3 credits
Required of all first-year art majors. A continuation of ART 151. A survey of the history of Western art from the Renaissance through Baroque, neo-classicism, Romanticism, Impressionism, Expressionism and various modern schools. The emphasis is on the painting of those periods. (45-0) FW

ART 154 The Arts of Africa and the Afro-American 1 Sem Hr

ART 154 **The Arts of Africa and the Afro-American.** A study of the visual arts of Africa and the African American. Topics are: (1) the visual arts as they developed in Africa, (2) the influence of African art on the art of Europe and America, (3) the arts of contemporary Afro-America. (15-0) O

1 Sem Hr

Prerequisite: Permission of the instructor. An investigation of the world of art at the Art Institute of Chicago. Study will focus on the painting and sculpture in the major collections. Field work in the Art Institute of Chicago will be required. Student must pay own expenses. (15-5) O

3 Sem Hrs

ART 210 - Figure Drawing
Prerequisite: ART 111. A study of the aspects of life drawing such as gesture, mass, proportions, and structure. Essentially for the art major. (0-90) O

ART 217 Painting I **3 Sem Hrs**
Prerequisites: ART 111, 115. Experimentation in acrylic media. Techniques, composition, and color are explored in relation to object references, landscape, figure and nonobjective work. (0-90) FW

ART 218 Painting II **3 Sem Hrs**
Prerequisite: ART 217. A continuation of the painting experience on a more advanced level. Major emphasis on developing a more personal painting style and an understanding of the artist's role in the arts today. (0-90) O

ART 221 Graphic Design/Commercial Art **3 Sem Hrs**
Recommended prerequisite: ART 115. Provides basic experience in graphic design. The focus will be on designing with typography as well as developing an understanding of its history and vocabulary. Aesthetics as applied to the printed page, concept development and design methodology will be addressed in assignments. Studio and lecture. (0-90) W

ART 222 Sculpture **3 Sem Hrs**
Prerequisite: ART 115 or 116 or permission of instructor. An introduction to a variety of sculptural concepts and techniques utilizing a variety of media. (0-90) O

ART 231 Ceramics I **3 Sem Hrs**
Introductory study of clay, glazes, and their applications, and techniques of wheel and hand construction through the process of low temperature Raku firing. Course fee required. (0-90) FW

ART 232 Ceramics II **3 Sem Hrs**
Prerequisite: ART 131 or permission of instructor. Ceramics II uses high-fire stoneware clay bodies and introduces firing techniques with high fire glazes. The techniques learned in Ceramics I are employed and are expanded to create a variety of well developed utilitarian and sculptural forms. Course fee required. (0-90) FW

ART 233 Ceramics III **3 Sem Hrs**
Prerequisite: ART 232 or permission of instructor. Learning by experimentation: mix own clay bodies and glazes rather than using prepared materials. Develop an understanding of ceramic process and employ this knowledge to gain a much higher level of achievement in ceramics. Course fee required. (0-90) FW

ART 251 History of Architecture **2 Sem Hrs**
The historical development of architecture as a major art form. This development is viewed in relation to man's knowledge of building techniques and available materials as affected by geographic, economic, political and religious influences. Formerly ART 153. (30-0) W

ART 252 History of American Architecture **2 Sem Hrs**
A study of the emergence and development of contemporary architecture from mid-18th century until the present, with an emphasis on the architecture of the United States. (30-0) O

ART 255 Art of the 20th Century **3 Sem Hrs**
An exploration of the visual arts of our century, with an emphasis on the current arts in America. (45-0) O

ART 258 History of American Art **3 Sem Hrs**
A study of the emergence and development of the visual arts in America from the 18th century until the present, with emphasis on the Art of painting. The works of the Hudson River School, the Luminist Movement, the Expatriates, the Eight and the Ashcan School through the Abstract Expressionists of the 50's, the pop artists of the 60's and the post-modern movements of the 70's will be examined. (45-0) O

ART 259 History of Photography **3 Sem Hrs**
Historical study of the evolution of technical processes and artistic concerns of the photographic media, and their impact on 20th Century society. (45-0) O

ART 260 The Business of Art **3 Sem Hrs**
Designed to acquaint the professional artist or advanced hobbyist with current business realities of art. Topics included are: self-promotion and marketing, grants, gallery contracts, networks, professional aspects, self-evaluation, career goal setting, tax and legal considerations. Journal, visits to galleries required. (45-0) O

ART 269 Fundamentals of Jewelry Making **3 Sem Hrs**
Designed to present jewelry as a form of personal art expression. Emphasis will be on design, fundamental materials, tools, and processes of jewelry making. Techniques will include cutting, fabricating, soldering, refining, casting, and finishing. (14-75) O

ART 270 Photography for Artists **3 Sem Hrs**
Prerequisite: Permission of the instructor. Designed primarily for art students to acquaint them with photography in relationship to their needs. The camera is studied as a practical resource/inspiration for mixed media, and its uses as sketchbook, tool for documentation. (36-45) W

ART 280 Printmaking **3 Sem Hrs**
Prerequisite: ART 111 and 115. A study of the art of printmaking and its major techniques; with studio practice in a variety of printing methods. The techniques taught are basically art skills useful to artists. (0-90) O

ART 281 Silkscreen Printing **3 Sem Hrs**
Prerequisite: ART 111 and 115. The student will identify and use methods of screen preparation using water soluble film, paper stencils, direct painting, glue resist and photo transfers. (0-90) O

ART 290-299 Special Projects in Art
See also Photography courses.

Automotive Service Courses ♦♦♦♦♦ ♦♦♦♦♦

AUT 100 Introduction to Automotive Service **3 Sem Hrs**
Units of instruction will emphasize orientation to the Automotive Service Units facility, basic tools and equipment, service publications, safety practices and professionalism. An introduction to the automobile and its components will concentrate on terminology and general component operation. (30-25) A

AUT 101 Understanding Your Automobile **2 Sem Hrs**
Intended to help you keep your car, van, or light truck in good operating condition. Topics include: the owner's manual, regular maintenance, emergency repairs, buying a new/used vehicle, or parts, selecting a repair facility, recognizing trouble signals, driving techniques, and the Michigan law for consumers and repair facilities. Not for auto majors. (30-0) FW

AUT 108 Introductory Automotive Electronics **3 Sem Hrs**
Topics include electrical and electronic fundamentals, magnetism and electrical test equipment. Major emphasis will be to establish an electrical base for advanced electrical/electronic courses. Develops skill through controlled learning experiences with basic electricity and electronics using meters and test equipment. (35-25) A

AUT 110 Automotive Electronics I **4 Sem Hrs**
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Includes electrical test equipment, battery service, wiring diagrams, cranking, and charging systems. Major emphasis on developing skills through controlled learning experiences with batteries, wiring diagrams, cranking and charging systems. (40-40) FD

AUT 112 Engine Service **6 Sem Hrs**
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Units of instruction will include nomenclature, operation and diagnosis of automotive gasoline engines. Skill development is established through controlled learning experiences on laboratory engine assemblies. (45-75) FD

AUT 114 Brake System Service **5 Sem Hrs**
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Units of instruction will emphasize nomenclature, operation and diagnosis of drum and disc brake systems. Skill development is established through controlled learning experiences with drum, disc, hydraulic, power assist and rear wheel disc. (40-60) FD

AUT 120 Driveline Service 6 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Units of instruction emphasizing nomenclature, operation, and diagnosis of malfunctions will prepare the student to perform service operations on clutches, manual transmissions, drive-shafts, differentials, transaxles, front driving axles, and transfer cases. (60-60) FD

AUT 122 Automatic Transmission Service 8 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Units of instruction include nomenclature, operation, and diagnosis of automatic transmission malfunctions. Major emphasis is placed on use of special tools and equipment necessary in the diagnosis and repair of automatic transmissions. (80-100) FD

AUT 210 Automotive Electronics II 3 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Units of instruction will emphasize body wiring diagrams, vacuum circuit diagrams, operation and location of electrical and vacuum devices. Skill development will be concentrated on diagnosis of malfunctions within accessory and convenience circuits. (30-30) WD

AUT 212 Suspension System Service 7 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Units of instruction will emphasize nomenclature, operation diagnosis of the steering and suspension system. Skill development is established through controlled learning experiences with frame, unibody, steering, suspension, four-wheel drives and four-wheel alignment. (56-84) WD

AUT 214 Heating/Air Conditioning Service 5 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Service skills will be developed by the student through units of instruction involving nomenclature, theory of operation diagnosing of system, and methods of service. Major emphasis is placed on use of tools and equipment necessary to determine malfunctions, service components, and place unit back in service. (50-50) WD

AUT 220 Electronic Systems Service 2 Sem Hrs
Prerequisite: Minimum C (2.0) grade in AUT 100 and AUT 108. Areas of study will involve a review of the fundamentals of electricity and magnetism. Major emphasis of the course will be on fundamentals of electronics followed by exploring the various strategies of electronic engine control. (16-24) WD

AUT 222 Fuel System Service 6 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Areas of study will involve units of instruction necessary to develop a thorough understanding of induction systems, delivery systems, carburetion, and injection systems. Skill development is established through controlled learning experiences with fuel delivery systems, carburetion, and fuel injections systems. (58-72) WD

AUT 224 Engine Performance Service 6 Sem Hrs
Prerequisite: Minimum C (2.0) grade in both AUT 100 and AUT 108. Areas of study will involve units of instruction necessary for a thorough understanding of ignition systems, emission control systems, and driveability diagnosis. Skill development is established through controlled learning experiences with ignition systems, emission control systems, and driveability diagnosis. (50-80) WD

AUT 260 Automotive Service Skills 1 Sem Hr
Prerequisite: Any two automotive clusters and faculty approval. This course is designed to provide skill building time through experiences gained by servicing customer vehicles at an automotive service facility. Service department communications, safety, diagnostic methods, and repair procedures will be emphasized. Since the intended experience is off campus, initiated and scheduled by the student, credit for this course will be normally processed through Credit-By-Portfolio. (0-120) O

Aviation Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

AVI 101 Private Pilot Ground Training 4 Sem Hrs
Designed to provide the student with basic principles of flight that are of

concern to the private pilot. Special emphasis will be placed on preparing one to pass the Federal Aviation Administration Private Pilot written examination. Emphasis is given to: Preflight facts, Federal Aviation Agency regulations, meteorology, flight computer, navigation and radio navigation. (60-0) F

AVI 110 Commercial Pilot Ground Training 4 Sem Hrs
Prerequisite: Knowledge of the Private Ground School recommended. Designed to prepare students for the Federal Aviation Administration Commercial Pilot written examination leading to licensure of a commercial pilot by the Federal Aviation Administration. Covers applicable flight information publication, meteorology and weather, navigation, aerodynamics and principles of flight, aircraft instruments. (60-0) O

AVI 201 Instrument Ground School 4 Sem Hrs
Prerequisite: Private Pilot License or Commercial Pilot Aviation Administration Instrument Pilot Ground School written examination leading to licensure of a pilot by the Federal Aviation Administration. (60-0) W

AVI 202 Aviation Meteorology 4 Sem Hrs
Prerequisite: Knowledge of AVI 101, 110 and 201 recommended. Provides in-depth understanding weather. Examines how and why weather forms, the problems it presents in flying, and solutions to those problems. Interprets weather charts and sequence reports. (60-0) O

AVI 290-299 Special Projects in Aviation

Biology Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

BIO 101 Introduction to Anatomy and Physiology 4 Sem Hrs
An introduction to basic human anatomy and physiology taught in a lecture-demonstration format. Includes basic principles of the structures and functions of the human body and the terminology related to these topics. (60-0) A

BIO 102 Microbiology & Infection Control 2 Sem Hrs
An introduction to the agents responsible for infectious disease and to the fundamentals of microbial control, including the procedures for sanitation, disinfection, and sterilization. Emphasis on the control of infection and prevention of contamination in medical and dental facilities. Will not substitute for BIO 203. (30-0) A

BIO 104 AIDS and Infectious Diseases 1 Sem Hr
The epidemiology, pathology, diagnosis, treatment, and attempts at immunization of AIDS. Because of the nature of this infectious disease, the secondary infections most likely to develop in AIDS patients, such as Tuberculosis, Pneumocystis carinii, Cytomegalovirus, Kaposi sarcoma, and others are examined. (15-0) A

BIO 110 Environmental Science 4 Sem Hrs
A survey of the broad field of environmental science. Major topics included, are: the scientific method, an introduction to chemistry, ecological principles, types of pollutants, energy principles, population issues, the environmental impact of human choices, and the role of economics, risk perception, and political choices in environmental decision-making. Laboratory activities will expose students to a variety of field, survey, and laboratory techniques useful in assessing environmental quality. (45-30) A

BIO 111 Principles of Biology 4 Sem Hrs
An introduction to the fundamental concepts underlying biology. Major topics include basic chemistry of the cell, cell structure and metabolism, molecular biology, genetics, the origin and evolution of living things, and ecological principles. The role of biology in our present world is the unifying theme for the course. Not appropriate for biology majors; applicable as science credit for non-majors. (45-45) A

BIO 113 Trees and Shrubs of Michigan 1 Sem Hr
Identification of the Michigan trees and shrubs indigenous to the Saginaw Valley. Methods used in this field course include use of the leaf, bark, twig, flower and silhouette. Historical and practical information presented as appropriate. (15-0) S

BIO 114 Animal Behavior - The Wolf**1 Sem Hr**

Designed to provide student with introduction to study of animal behavior with focus on the wolf. Topics covered will include development of behavior patterns, social behavior, effects of imprinting, role of pheromones in sexual behavior, and hunting behavior. Student will prepare ethogram comparing different subspecies and various breeds of dogs. A weekend field trip is required with student paying own expenses. (15-0) S

BIO 115 Environmental Issues**2 Sem Hrs**

Designed to develop an understanding and appreciation of the interacting forces that comprise our environment. Emphasis will center on the modern ecological problems involved in human's relationship to the geographic area under study as it has been affected by the history, economics and ecological conditions. Using the Saginaw Valley, students will examine various aspects of the exploitation, conservation, and control of the Valley's environment. Credit may be earned in BIO 115 or POL 115 but not in both. (30-0) DW

BIO 116 Winter Ecology**1 Sem Hr**

Explores the adaptations and coping behaviors of organisms and communities to the additional stresses placed on them by winter. Major topics include: weather and climate, hibernation, freezing avoidance, community changes, and behavior of animals. In addition, students will identify plants, animal tracks, insect galls, bird nests, and various kinds of snow conditions. A weekend field trip is required. Student must pay own expenses. (15-0) W

BIO 117 Birds of Michigan**1 Sem Hr**

Identification of resident and migratory birds by sight and song. Includes bird nesting, feeding and territorial behavior. Taught primarily in the field. (15-0) S

BIO 118 Michigan Wildflowers**1 Sem Hr**

Identification of common seasonal wildflowers of the open field and deciduous woods. Includes ecological significance of major families of flowers. Historical and practical information presented when appropriate. Taught primarily in the field. (15-0) S

BIO 119 Stream Ecology**1 Sem Hr**

Designed to introduce the student to the physical environmental factors that affect organisms inhabiting streams as well as the human influence. The energy flow through stream ecosystems will be emphasized along with the lifestyles and interdependencies of stream animals. Field and laboratory work on 2 different kinds of streams will be a necessary component. A weekend field trip will be required with the student paying own expenses. (10-10) FS

BIO 120 Introduction to**Environmental Studies (Field Course)****4 Sem Hrs**

Designed to familiarize students with the history and methodology associated with scientific method. Introduces the manner in which the environmental effects of man's presence on Earth are monitored. Students will devise and carry out supervised research projects while at a field site. Field sites will be selected so that a variety of ecosystems will be encountered. Skills such as use of taxonomic keys, monitoring of wildlife, and operation of scientific equipment will be stressed. Fees: Special fees will be assessed to cover the costs of class objectives at off-campus sites; i.e. travel, etc. (45-45) S

BIO 130 Introduction Chemistry and Cell Biology**3 Sem Hrs**

An introduction to the principles and concepts of chemistry and cell biology for students entering allied health curricula. Includes basic math for science, the laws of thermodynamics, theory of atomic structure, chemical bonding, acids bases, and buffers; introduction to organic chemistry, cell structure and function, basic metabolic pathways, mitosis, meiosis, classical and physiological genetics. Recommended prerequisite to BIO 131 and 132 sequence. (30-30) A

BIO 131 Anatomy and Physiology I**4 Sem Hrs**

Prerequisite: BIO 130 with a C (2.0) minimum grade or successful completion of BIO 130 competency exam. The first course in a two semester sequence suitable for students preparing for various health care professions. Following a brief review of chemistry and cell biology, major consideration is given to the anatomy and physiology of tissues,

sensory organs, blood and skin, and to muscular, skeletal, nervous, and endocrine systems. Laboratory activities include identification of tissues, bones, muscles, nerves, and blood vessels through the use of dissection and preserved materials; physiology experiments relate to muscle, nerve, sense organs, circulatory & endocrine functions. Due to the rapid change in information in the area of human physiology, credits earned in this course may only be acceptable to specified Delta College health curricula for a certain period of time. Consult curricula guidesheets for exact information. (45-45) A

BIO 132 Anatomy and Physiology II**4 Sem Hrs**

Prerequisite: BIO 131 with a C (2.0) minimum grade. Topics covered include: cardiovascular, lymphatic, respiratory, digestive, reproductive and urinary systems; nutrition, metabolism, embryology, fluids and electrolytes. Laboratory activities include: anatomical studies of these systems using preserved materials and models, as well as physiology experiments relating to metabolic rates, control of breathing, digestive enzymes & kidney physiology. Endocrine influence on these systems is discussed. Due to the rapid change in information in the area of human physiology, credits earned in this course may only be acceptable to specified Delta College health curricula for a certain period of time. Consult curricula guidesheets for exact information. (45-45) A

BIO 141 Basic Pathophysiology**4 Sem Hrs**

Prerequisite: BIO 132. Disease processes are presented in terms of physiological disfunction. The effects and/or sequelae of alterations of selected normal physiological processes are examined. Lectures are accompanied by demonstrations of basic biochemical and physiological principles, when necessary, throughout the course. (45-30)

BIO 145 Human Genetics**4 Sem Hrs**

Prerequisites: BIO 111 or BIO 130, or permission of the instructor. An introduction to human genetic principles and issues. Major topics include: Mendelian and multifactorial inheritance, chromosomal abnormalities, molecular genetics and genetic engineering, the etiology of birth defects and cancer, pedigree analysis, reproductive technologies, prenatal diagnosis, and genetic counseling. The social and ethical issues associated with recent advances in genetics will also be explored. Credit may be earned in BIO 145 or BIO 199H but not in both. (60-0) WD

BIO 150 Introduction to Horticulture**4 Sem Hrs**

A study of horticultural science including: Plant propagation; manipulation of the physical environment (soil, light, water, etc.); disease and pest control; care of landscape, garden, greenhouse and window sill plants and the identification of some common "house" plants. (45-45) O

BIO 171 Integrated General Biology I**4 Sem Hrs**

Prerequisite: BIO 111 or high school Chemistry and Advanced Biology. The first course in a two-semester sequence for biology majors. Major topics include: cellular structure and the metabolic processes of respiration and photosynthesis; the role of gametogenesis, embryology, and metamorphosis in the life cycles of various organisms; and molecular and organismal genetics. This course is designed for individuals who are serious about majoring in science; therefore, a grade of "B" or better is strongly encouraged in all prerequisite coursework. (45-45) FW

BIO 172 Integrated General Biology II**4 Sem Hrs**

Prerequisite: BIO 171. The second course in a two-semester sequence for biology, pre-med, pre-dent, pre-pharm, etc., majors. Major topics include: a survey of the five kingdoms emphasizing comparative anatomy, development and ecological roles, patterns and mechanisms of evolution, population genetics, embryology, behavior, and ecology. (45-45) FW

BIO 180 Wastepan Software**1 Sem Hr**

WASTEPLAN is a microcomputer-based approach that forecasts longterm economic impacts of any combination of composting, recycling, landfilling, incineration, or other activities involved in conventional integrated solid waste plans. These forecasts can help planners answer "what-if" questions associated with alternative sizes of wasteland, expected volumes of collectibles, and alternative collection and disposal practices. Case histories will be used. This is designed for public and private sector policy makers, elected officials, public works managers, waste management professionals, students interested in environmental science careers, and interested citizens. (18-0) W

BIO 199H Human Heredity and Sexuality**4 Sem Hrs**

Prerequisites: High school Biology and Chemistry and approval by Honors Program Director. An introduction to human heredity, sexuality, and ethical implications of expanding scientific knowledge. Major topics include Mendelian, chromosomal and multifactoral inheritance, sexual development, AIDS, and molecular genetics. Topics such as eugenics, cancer, IVF, genetic engineering, genetic screening, AIDS awareness and sexuality are explored. Occasional field trips and guest speakers. Non-honors students may enroll in this course with permission of the instructor. Credit may be earned in BIO 199H or BIO 145 but not in both. (45-45) FD

BIO 203 General Microbiology**4 Sem Hrs**

Prerequisite: BIO 111 or BIO 132 with a grade of C (2.0) or better, or permission of the instructor. A survey of the comparative biology microbes including the bacteria, viruses, fungi, algae, and protozoans. Emphasis is on the distribution and activities as related to: microbial nutrition & anatomy, diseases, infection & immunity & growth. The lab emphasizes aseptic technique, development of skills necessary to handle microbes, and the characterization of unknown microbes. Due to the rapid change in information in the area of microbiology, credits earned in this course may only be acceptable to specified Delta College health curricula for a certain period of time. Consult curricula guidesheets for exact information. (45-60) A

BIO 215 Field Ecology**4 Sem Hrs**

Prerequisite: BIO 111. This course will explore a variety of ecological interactions, with special emphasis on the detailed field analysis of particular ecosystems, the successional stages leading to a climax community, and the natural history of particular plants and animals. Techniques for the analysis of populations and collection of field data will be an integral part of the course. (45-45) S

BIO 216 Wilderness Ecology**3 Sem Hrs**

Prerequisite: Good physical condition, instructor approval. Recommended: BIO 111 and/or 215. This course is conducted in selected wilderness areas, including disturbed and undisturbed sites. Field experiences aimed at analysis of wilderness communities are emphasized. Ecological stability, together with some implications of change are considered. The majority of course emphasis is on Isle Royale National Park. Five other wilderness areas in Michigan are included. Students must pay own expenses. (45-0) S

BIO 240 Human Anatomy**4 Sem Hrs**

Prerequisite: BIO 171 or permission of instructor. The anatomy of the human body is presented on an integrated regional basis, supplemented by relevant histological, embryological, and functional considerations. The laboratory emphasizes regional dissections of the cat. Designed to meet the needs of biology majors and pre-professional science curricula, including all transfer health-related fields. (45-45) FD

BIO 241 Physiology**4 Sem Hrs**

Prerequisite: BIO 171 or permission of instructor. Background in anatomy and chemistry is desirable, but not required. The aim of the course is to provide students with an introduction to the functional integration of the major organ systems of animals, with special emphasis on the human body. Emphasis is placed on the ways in which the various systems interact to maintain homeostasis of the individual. The laboratory experiments illustrate classical as well as modern approaches to the physiology of various organ systems. (45-60) WD

BIO 268 International Studies in Biology**4 Sem Hrs**

A biologic interpretation of selected world regions with emphasis on natural history, fauna and flora, and ecological relationships. Includes class lectures, individual consultation, and international field study. Expenses for the field study must be borne by the student. (60-0) O

BIO 290-299 Special Projects in Biology

Broadcasting and Telecommunications Courses ♦♦♦♦♦♦♦♦♦♦

BRT 130 Electronic Media & Society**3 Sem Hrs**

Examination of electronic media and its impact on society. Analysis of how radio and TV, cable and satellite systems influence our lives and worldwide social, cultural and political values. (45-0) O

BRT 149 Television Studio Operations I**3 Sem Hrs**

Prerequisite or concurrent: BRT 150 and BRT 156 with C (2.0) minimum grades. Introduction to television studio production. Emphasis is on operation of television cameras, lenses, microphones, audio boards, lighting equipment, and videotape. Each student is scheduled for 30-40 hours as an observer/participant in studio production and in Master Control Room (MCR) operation. These times are arranged with the staff Productions and Operations Manager. (30-30) FW

BRT 150 Broadcast Writing**3 Sem Hrs**

Prerequisite or concurrent: ENG 111. Introduction to broadcast writing from conceptualization to practical application. Major areas of scripting/writing emphasis include news, continuity, commercial, and documentary. (45-0) FW

BRT 153 Broadcast Performance**3 Sem Hrs**

Introduction to broadcast performance. Emphasis is on presentations before microphones and cameras. Dress, movement, make-up, lighting, and delivery are all examined in such major performance situations as interviews, discussions, newscasts, commercials, and product demonstrations. (30-30) FW

BRT 154 Television Studio Operations II**3 Sem Hrs**

Prerequisite: BRT 149 with C (2.0) minimum grade. Advanced principles, procedures, and techniques of television studio production. Through actual production work, emphasis is placed on producing, directing, staging, design, and operation of production facilities. Each student is scheduled for 30-40 hours as a participant in studio production and in Master Control Room (MCR) operation. These times are arranged with the staff Productions and Operations Manager. (30-30) FW

BRT 156 Audio Operations I**3 Sem Hrs**

Introduction to the basic aspects of audio engineering: training in the performance characteristics and operation of audio equipment including microphones, consoles, reproduction facilities (audio record/play machines, turntables, compact disc players), and basic processing (equalization, echo, reverberation). Also covered will be the fundamentals of audio tape editing. (30-30) FW

BRT 157 Television Field Production**3 Sem Hrs**

Prerequisite: BRT 149 with C (2.0) minimum grade. Principles, procedures, and techniques of television field (non-studio) production. Individual video productions in various technical formats are produced. Work with portable video equipment in the field is required. (30-30) F

BRT 177 Telecommunications Facilities**4 Sem Hrs**

General overview of the basic operations and organization of telecommunications facilities, including radio and television broadcasting stations, cable television services, and corporate media production departments. Course will feature guest lecturers on the topics of programming, traffic, fundraising and underwriting, sales, promotions and public information, engineering and management. Within each category, similarities and differences between the various types of telecommunications facilities will be explored. On-site facility tours will be included. (60-0) O

BRT 220 Broadcast History, Law and Responsibility**4 Sem Hrs**

Fundamental historic and legal principles of broadcasting. The history of broadcasting involves the origin, development, nature and function of radio and television stations and networks. The economics of the broadcasting industry are discussed along with self-regulation and social controls in modern society. The legal principles involve communications law regulatory acts and agencies, self-regulatory codes, labor unions, and the ethical and moral considerations in broadcasting. Pending legislation affecting broadcasting is examined, as well as future technical and legal developments. (60-0) O

BRT 222 Broadcast Journalism 3 Sem Hrs
Prerequisite: BRT 150 and BRT 156 with C (2.0) minimum grades. Principles of news gathering, editing, and presentation for broadcast. Course will include visits by area broadcast journalists to discuss issues and techniques. Students will complete field reporting exercises for radio and television news. (30-30) F

BRT 227 Broadcast Sales 3 Sem Hrs
Basic marketing concepts in broadcast time and spot sales. Information on the psychological, sociological, economic, and communicative aspects of salesmanship are applied to the broadcast industry. Actual sales presentations are prepared for hypothetical clients. Practicing professionals in the broadcast sales field share their experiences with the class. (45-0) O

BRT 230 Broadcast Audio Production 3 Sem Hrs
Prerequisite: BRT 153 and BRT 156 with C (2.0) minimum grades. Detailed study with an audio design orientation of various aspects of broadcast audio production. Areas of study to include basic training in technical listening, radio arts and entertainment production, and audio collage techniques and their use in broadcast dramas and documentaries.

Students will be asked to produce mock radio programs of various formats in addition to other lab exercises. Potential for direct student interactive experience with WUCX/Delta Broadcasting FM Public Radio. (30-30) F

BRT 232 Radio News Production 3 Sem Hrs
Prerequisite: BRT 153 and BRT 222 with C (2.0) minimum grades. Advanced study and training in the production of news for radio. News services, field reporting, feature production, and newscast producing and editing will be explored. Students will be asked to regularly submit individual news productions in a variety of journalistic formats. Potential for direct student interactive experience with WUCX/Delta Broadcasting FM Public Radio. (30-30) F

BRT 234 Music Programming Workshop 3 Sem Hrs
Prerequisite: BRT 230 with C (2.0) minimum grade. In-depth study of music program production for radio. Comparison of commercial and public radio, and the elements and constraints shaping each format. Comprehensive survey of musical styles and how they're utilized to create programming formats, as well as the study of various music sources and services. Each student will be asked to weekly produce an hour-long mock radio program with complete and detailed play list and log. Various musical formats will be required. Potential for direct student involvement with WUCX/Delta Broadcasting Public Radio program production. (30-30) W

BRT 251 Television Producing and Directing 3 Sem Hrs
Prerequisite: BRT 154 and BRT 157 with C (2.0) minimum grades. Advanced techniques in the art of television producing and directing. Emphasis is placed on individual responsibility for complete program planning and organization: production equipment, personnel utilization, talent coordination, and camera direction. (30-30) W

BRT 256 Audio Operations II 3 Sem Hrs
Prerequisite: BRT 156 with C (2.0) minimum grade. Advanced principles, procedures, and techniques of audio engineering. Provides training in remote and field recording, studio and multitrack recording, and standard processing facilities (equalizers, effects generators, noise gates). A wide spectrum of industry applications will be discussed. (30-30) O

BRT 257 Advanced Television Field 3 Sem Hrs
Prerequisite: BRT 157 with C (2.0) minimum grade. Advanced principles, procedures, and techniques of television field (non-studio) production. Expands upon principles of field production including multiple camera remote operations and simple field troubleshooting. Editing techniques are explored in depth. (30-30) O

BRT 260 Assistant Director I 2 Sem Hrs
Prerequisite: BRT 149 with C (2.0) minimum grade and instructor approval. In-service training in television production in the areas of producing-directing, operations, and programming under the direct supervision of a television staff member. A minimum of four hours of work per week in television production is required. (0-60) O

BRT 261 Assistant Director II 2 Sem Hrs
Prerequisite: BRT 154 and BRT 260 with C (2.0) minimum grades and instructor approval. Expanded in-service training in the areas of producing-directing, operations, and programming under the direct supervision of a television staff member. A minimum of four hours of work per week in television production is required. (0-60) O

BRT 270 Current Trends and Issues - Seminar 2 Sem Hrs
Prerequisite: BRT 200 or instructor approval. Seminar in current issues that affect broadcasting and/or other areas of telecommunications. Provides timely information on trends and practices within the telecommunications industries discussed, as well as within related technologies and professions. (30-0) O

BRT 290-299 Special Projects in Broadcasting or Telecommunications.

Computer Assisted Drafting Courses ♦♦♦♦

CAD 101 AutoCAD I 1 Sem Hr
Prerequisite: DRF 104 or passing score on drafting test (see instructor). Introduction to AutoCAD, the microcomputer Cad software standard of the industry. Students develop several 2-D drawings. (15-0) O

CAD 102 AutoCAD II 1 Sem Hr
Prerequisite: CAD 101 or passing score on CAD 101 test (see instructor). A continuation of the principles of AutoCAD I. Manipulation of 2-D drawings and the development of several 3-D drawings using an extrusion method and the newer 3-D capabilities of AutoCAD release 10 and 11. Use of viewports, user coordinate system, wire mesh to solid conversion. (15-0) O

CAD 103 AutoCAD III 1 Sem Hr
Prerequisite: CAD 102 or CAD 114 or passing score on CAD 102 test (see instructor). Advanced training in AutoCAD by the customizing of menus through the use of menu macros. (15-0) O

CAD 104 AutoCAD IV 1 Sem Hr
Prerequisite: MT 110, and either CAD 102 or CAD 114 or passing score on CAD 102 test (see instructor). An introduction to the AutoLISP programming language. Student develops an understanding of both the capabilities and limitations of this powerful dialect of LIST processing (LISP). Covers the necessary skills to design, write, debug, load and execute valuable AutoLISP routines along with the knowledge for customizing your own menus to increase productivity. (15-0) O

CAD 105 AutoCAD V 1 Sem Hr
Prerequisite: CAD 104 or passing score on CAD 104 test (see instructor). Advanced training in AutoLISP programming. Use of polar coordinates and angles, ADAD.LSP functions, Macros. (15-0) O

CAD 114 AutoCAD Introduction 2 Sem Hrs
Prerequisite: Previous industrial drafting experience or one year of high school drafting. AutoCAD software used to draft two dimensional multi-view drawings and three dimensional wire frame constructions. Completed projects include arrays, blocks, assigned properties, notations, and dimensions. Knowledge of the software, hardware and the MS-DOS operating system is acquired in the process of developing a Computer Aided Design and Drafting drawing for multi-pen plotting. Credit may be earned in either CAD 114 or SKCAD 114 but not in both. (30-0) A

CAD 214 AutoCAD Techniques 2 Sem Hrs
Prerequisite: CAD 114 and either DRF 104 or DRF 105. Extends skills in the use of AutoCAD and builds efficiency in the production of CAD drawings. Developing two dimensional multi-view drawings fully noted, sectioned, and dimensioned is emphasized. Adding attributes and composing complete working drawings also covered. Students complete three dimensional drawings to prove and verify designs and display them as expanded multi-views. (30-0) A

CAD 224 AutoCAD Advanced 2 Sem Hrs
Prerequisite: CAD 214. Develops skills in the use of AutoCAD and

increases the options and methods of production of CAD drawings. Develops capability with AutoCAD SYSTEM VARIABLES, DIMENSIONING VARIABLES, CUSTOMIZING SCREEN & TABLET MENUS, SYMBOL LIBRARIES and SCRIPT FILES. Included is an introduction to AutoLISP, extended file manipulation and command of DOS. Both 2D multi-view and 3D wireframe drawings are assembled into working drawings. (30-0) FS

CAD 290-299 Special Projects in Computer Assisted Drafting

Child Development Courses ♦♦♦♦♦ ♦♦♦♦♦

CD 105 The Growing Years 3 Sem Hrs

An introduction to child development from the earliest womb environment through early childhood into adolescence. Emphasis is on the interplay of biological factors, human interaction, social structure and other cultural forces in shaping the growing child. This course is not equivalent to either CD 114 or 115 and is not intended for students enrolled in the Child Development curriculum. (45-0) O

CD 111 Introduction to Early Childhood Education 2 Sem Hrs

CD 111, 112, 113, 114 and 160 must be taken concurrently. Designed to introduce the student to the field of early childhood education. An overall view of goals, children, schools, teaching techniques and professionalism are the major objectives of this course. (30-0) DF

CD 112 The Early Childhood Program 2 Sem Hrs

CD 111, 112, 113, 114 and 160 must be taken concurrently. Designed to give the basic curriculum and organizational skills needed to work in an early childhood program. Identifying, developing and presenting developmentally appropriate activities for the early childhood program will be a major part of curricula information. (30-0) DF

CD 113 Interaction with Young Children 3 Sem Hrs

CD 111, 112, 113, 114, and 160 must be taken simultaneously. This course is designed to give the student basic skills needed to interact with young children in a positive manner. Identifying instances of growth-producing and/or growth-restricting child behavior and the capability to recognize and interpret a variety of guidance techniques are the major objective of the course. (45-0) FD

CD 114 Introduction to Growth and Development of the Young Child 3 Sem Hrs

CD 111, 112, 113, 114, and 160 must be taken simultaneously. This course is designed to introduce the student to the topic of human growth and development from birth through the early years. It utilizes observations as a technique to illustrate growth in the four major areas: physical, cognitive, social, emotional, and includes the importance of play in young children's learning. (45-0) FD

CD 115 Growth and Development of the Young Child 3 Sem Hrs

Prerequisites: CD 111, 112, 113, 114, and 160; CD 115, 116, and 117 must be taken concurrently. Designed to give an in-depth understanding of the physical, cognitive, social, and emotional aspects of human growth and development from conception through adolescence. (45-0) WD

CD 116 Families in the American Culture 3 Sem Hrs

Prerequisites: CD 111, 112, 113, 114 and 160; CD 115, 116, and 117 must be taken concurrently. Designed to provide the background needed to work with parents of children in the early childhood programs. Roles, differing family structures, supporting families in crisis, and communication skills are included. Diversity in social class, economic resources, cultural customs and tradition are explored, and the need for parent-teacher communication is emphasized. (45-0) WD

CD 117 Practicum for Early Childhood Assistant 6 Sem Hrs

Prerequisites: CD 111, 112, 113, 114 and 160; CD 115, 116, and 117 concurrently. This practicum focuses on interaction skills, child care skills and techniques for supporting a lead teacher in the day-to-day operation of an early childhood program. At least four days a week will be spent in an early childhood program, and students will meet with the instructor once a week. (37.5-225) DW

CD 118 Toddlers: Development and Programming 3 Sem Hrs

Designed to introduce the student to the growth and development patterns of the toddler age child and develop skills in the planned application of growth and development principles to the group care situation. Students will develop materials and resource files for use in the toddler classroom. (45-0) O

CD 160 Introductory Practicum in Child Development 2 Sem Hrs

Prerequisites: CD 111, 112, 113, 114, and 160 must be taken concurrently. Introduces the student to the early childhood classroom where they will observe and participate directly with children and teachers of young children. At least two half days a week will be spent in a quality early childhood program. (15-80) DF

CD 200 Practicum as a Lead Teacher 4 Sem Hrs

Prerequisite: CD 111, 112, 113, 114, 115, 116, and 117. Designed to prepare for a lead teaching position as well as a program management position. It will stress the development of teaching skills and program management skills. At least four days a week will be spent in early childhood program. (15-300) WSD

CD 290-299 Special Projects in Child Development

Cooperative Education Courses ♦♦♦♦♦ ♦♦♦♦♦

Student must carry a minimum of 12 credit hours including the co-op class, maintain a minimum 2.0 grade point average, and work 15-25 hours per week on a job relating to his/her curriculum. Co-op coordinator must approve the co-op work station.

Students are advised to consult with co-op coordinator about appropriate course number as course numbers depend upon curriculum.

CED 103, 113, 123, 133, 143, 153, 173, 183 1 Sem Hr **Cooperative Education**

Prerequisite: Must be employed and have consent of coordinator. On-the-job training relating to the student's curriculum. Evaluations made by the employer and the coordinator. Class will meet five hours per semester. Term paper and/or project required. Designed for student who is placed in co-op position for the last 1/3 of the semester. (5-75) FW

CED 104, 114, 124, 134, 144, 154, 174, 184 2 Sem Hrs **Cooperative Education**

Prerequisite: Must be employed and have consent of coordinator. On-the-job training relating to the student's curriculum. Evaluations made by the employer and the coordinator. Class will meet ten hours per semester. Term paper and/or project required. Designed for student who is placed in co-op position for the last 2/3 of the semester. (10/150) FW

CED 105, 115, 125, 135, 145, 155, 175, 185 3 Sem Hrs **Cooperative Education I**

Prerequisite: Employable skill and consent of coordinator. Places the student in a curriculum-related, supervised work station for on-the-job experience. Evaluations are made by the employer/supervisor and the college coordinator. Class may meet with coordinator two hours per week. Term paper and/or project reports may be required. (15-225) FW

CED 106, 116, 126, 136, 146, 156, 176, 186 3 Sem Hrs **Cooperative Education II**

Prerequisite: CED 115, 125, 135, 145, 155, 165, 175, or 185. A continuation of Cooperative Education I, with additional responsibilities at work site. Term paper and/or project may be required. (15-225) FW

CED 120 Co-Op: Retail Management 3 Sem Hrs

Prerequisite: Employable skill and consent of coordinator. Places the student in a curriculum-related, supervised work station for on-the-job experience. Evaluations are made by the employer/supervisor and the college coordinator. Class may meet with coordinator two hours per week. Term paper and/or project reports may be required. (15-225) FW

CED 163 Co-Op Office Professional 1 Sem Hr
Prerequisite: Must be employed and have consent of coordinator. On-the-job training relating to the student's curriculum. Evaluations made by the employer and the coordinator. Class will meet five hours per semester. Term paper and/or project required. Designed for student who is placed in co-op position for the last 1/3 of the semester. (5-75) FW

CED 164 Co-Op Office Professional 2 Sem Hrs
Prerequisite: Must be employed and have consent of coordinator. On-the-job training relating to the student's curriculum. Evaluations made by the employer and the coordinator. Class will meet ten hours per semester. Term paper and/or project required. Designed for student who is placed in co-op position for the last 2/3 of the semester. (10/150) FW

CED 165 Co-Op Office Professional 3 Sem Hrs
Prerequisite: Employable skill and consent of coordinator. Places the student in a curriculum-related, supervised work station for on-the-job experience. Evaluations are made by the employer/supervisor and the college coordinator. Class may meet with coordinator two hours per week. Term paper and/or project reports may be required. (15-225) FW

CED 166 Co-Op Office Professional 3 Sem Hrs
Prerequisite: CED 115, 125, 135, 145, 155, 165, 175, or 185. A continuation of Cooperative Education I, with additional responsibilities at work site. Term paper and/or project may be required. (15-225) FW

CED 205, 215, 225, 235, 245, 255, 275, 285 2 Sem Hrs
Cooperative Education III
Prerequisite: CED 106, 116, 126, 136, 146, 156, 166, 176, or 186. A continuation of Cooperative Education I and II, with additional responsibilities at work site. A five-hour workshop per semester. (5-225) FW

CED 206, 216, 226, 236, 246, 256, 276, 286 2 Sem Hrs
Cooperative Education IV
Prerequisite: CED 205, 215, 225, 235, 245, 255, 265, 275, or 285. A continuation of Cooperative Education I, II, and III, with additional responsibilities at work site. A five-hour workshop per semester. (5-225) FW

CED 207, 217, 227, 237, 247, 257, 277, 287 1 Sem Hr
Cooperative Education V
Prerequisite: CED 206, 216, 226, 236, 246, 256, 266, 276, or 286. A continuation of Cooperative Education I, II, III, and IV, with additional responsibilities at work site. A 2.5 hour workshop per semester and/or a major project or paper with one-on-one consultation with co-op coordinator may be required. (2.5-162.5) FW

CED 208, 218, 228, 238, 248, 258, 278, 288 1 Sem Hr
Cooperative Education VI
Prerequisite: CED 207, 217, 227, 237, 247, 257, 267, 277, or 287. A continuation of Cooperative Education I, II, III, IV, and V, with additional responsibilities at work site. A 2.5 hour workshop per semester and/or on a major project or paper with one-on-one consultation with co-op coordinator may be required. (2.5-162.5) FW

CED 265 Co-Op Office Professional 2 Sem Hrs
Prerequisite: CED 106, 116, 126, 136, 146, 156, 166, 176, or 186. A continuation of Cooperative Education I and II, with additional responsibilities at work site. A five-hour workshop per semester. (5-225) FW

CED 266 Co-Op Office Professional 2 Sem Hrs
Prerequisite: CED 205, 215, 225, 235, 245, 255, 265, 275, or 285. A continuation of Cooperative Education I, II, and III, with additional responsibilities at work site. A five-hour workshop per semester. (5-225) FW

CED 267 Co-Op Office Professional 1 Sem Hr
Prerequisite: CED 266 and must be employed and have consent of co-op coordinator. Evaluations made by the employer and the coordinator, class will meet five hours per semester. Term paper and/or project required. Designed for student who has completed four semester of co-op at Delta. (15-225) O

CED 268 Co-Op Office Professional 1 Sem Hr
Prerequisite: CED 207, 217, 227, 237, 247, 257, 267, 277, or 287. A

continuation of Cooperative Education I, II, III, IV, and V, with additional responsibilities at work site. A 2.5 hour workshop per semester and/or on a major project or paper with one-on-one consultation with co-op coordinator may be required. (2.5-162.5) FW

CED 290-299 Special Projects in Cooperative Education

Chemistry Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

CHM 100 Chemistry and the World 4 Sem Hr
An analysis of the impact of chemistry on our world. Rudimentary concepts of matter and energy will be explored, but particular emphasis will be on current issues such as pollution and the environment, power generation, population, and drugs. Laboratories will be oriented toward using basic techniques in making useful and interesting products. Recommended for elementary school teachers. No previous chemistry or mathematics required. (45-45) O

CHM 101 General Chemistry I 5 Sem Hr
Fundamental principles, including atomic theory, periodic properties, states of matter, laws of chemistry combination, nomenclature, and chemical phenomena of interest to daily living. Designed as a preparation to CHM 111 for those students with no previous work in chemistry and to satisfy a science requirement in certain curricula. Students may use either CHM 101 or CHM 111, not both, to fulfill graduation requirements. (75-30) A

CHM 102 General Chemistry II 5 Sem Hr
Prerequisite: CHM 101. Continuation of CHM 101. Emphasis on solutions, equilibrium, thermal reactions, metals, non-metals, and selected topics in organic and biochemistry. (45-30) W, even numbered years only.

CHM 111 General and Inorganic Chemistry I 4 Sem Hr
Prerequisites: High school chemistry or CHM 101 and one year of high school algebra. A course with emphasis on an in-depth study of the theories and principles of atomic structure bonding, stoichiometry, states of matters, and properties of solutions. This course is required for students who intend to enroll for more than one year of chemistry. Meets the needs of chemistry majors. Students may use either CHM 101 or CHM 111, not both, to fulfill graduation requirements. (60-45) A

CHM 112 General and Inorganic Chemistry II 4 Sem Hr
Prerequisite: CHM 111. Continuation of CHM 111. A study of chemical equilibria in water, including ionization solubility, complexation, acid-base phenomena, and oxidation-reduction equilibria. The principles of electrochemistry, chemical thermodynamics, and chemical kinetics are discussed. Special topics such as the descriptive study of metals and non-metals are also discussed in this course. Meets the needs of chemistry majors. (60-45) A

CHM 145 The Language of Chemistry 1 Sem Hr
Acquaints the student with the language, rather than the technology, of chemistry. Provides an overview of chemical concepts and terminology. Includes formula writing and spelling, pronunciation, and definitions of chemical terms. (15-0) W

CHM 201 Organic Chemistry I 5 Sem Hr
Prerequisite (or concurrent): CHM 112. A course in the basic principles of organic chemistry and laboratory techniques with some emphasis on medical and pharmaceutical applications. Meets the needs of students in medical and health fields, or a major in chemistry. (60-60) F

CHM 202 Organic Chemistry II 5 Sem Hr
Prerequisite: CHM 201. A continuation of CHM 201. (60-60) W

CHM 211 Organic Chemistry I 5 Sem Hr
Prerequisite (or concurrent): CHM 112. A course in the basic principles of organic chemistry and laboratory techniques with some emphasis on industrial type reaction mechanisms, kinetics, and thermodynamics. Meets the needs of students in medical and health fields, in engineering fields, or a major in chemistry. (60-60) F

CHM 212 Organic Chemistry II **5 Sem Hrs**
Prerequisite: CHM 211. A continuation of CHM 211. (60-60) W

CHM 221 Organic Biochemistry **3 Sem Hrs**
Prerequisite: CHM 111, or CHM 101 with a minimum grade of B (3.0). Includes the structure and properties of the major classes of organic compounds, with emphasis on characteristic reactions of various functional groups, as well as fundamental concepts of bio-chemistry and the interrelationships of biologically active compounds with major metabolic pathways. (45-0) WD

CHM 222 Organic Biochemistry Laboratory **1 Sem Hr**
Prerequisite: CHM 221 or concurrent enrollment. Laboratory experiments are designed to provide a variety of perspectives to supplement and enhance the student's background in organic and biochemistry. Experiments include extractions, syntheses, separations, analyses, comparison of reactions, and metabolic studies. (0-45) WD

CHM 230 Chemical Analysis/Instrumentation **3 Sem Hrs**
Prerequisite: CHM 112. Designed to teach the theory and practice of basic chemical preparation and analysis as performed in research and/or industrial settings today. Emphasis will be placed on safety, detailed and accurate record keeping, data handling, and report writing. Beneficial to all science majors in Biology, Chemistry, and Engineering and other Applied Science Curricula. (30-45) FW

CHM 290-299 Special Projects in Chemistry

Computer Information Systems Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

CIS 100 Computer Literacy/Business **1 Sem Hr**
An exposure to vocabulary, mainframe electronic mail, DOS (disk operating systems), wordprocessing, database and spreadsheets. An overview of mainframe and microcomputers. Employable skills will not be developed. (15-0) O

CIS 101 Lotus I **1 Sem Hr**
Prerequisites: CIS 100 or CIS 114 or equivalent. The student will learn to create, save, retrieve, and print a worksheet using Lotus 1-2-3 software. Topics will include the command menu, basic formulas and functions, global and range operations, setting cell formats, move and copy commands, column widths, and print options. (15-0) O

CIS 102 Lotus II **1 Sem Hr**
Building on skills acquired in Lotus I, students will learn to manage large worksheets, locate circular references, freeze titles, hide columns, use windows, extract and combine files, and memo preparation. Also covered will be creation of line and bar graphs, pie charts, and the print graph program. (15-0) O

CIS 103 Lotus III **1 Sem Hr**
Prerequisite: CIS 102. Worksheets will be used for projections and what-if analysis. Students will learn to create and modify a database and use sort, query, and extract to access the database. Writing, editing, and testing macros, and interactive macros will be covered. May include a project option. (15-0) O

CIS 112 Introduction to AS400 and PROFS **1 Sem Hr**
Provides a basic orientation to the IBM AS/400. The class materials will cover PROFS (Professional Office) operations such as Electronic Mail and Calendar Scheduling. File creation, input screens, compiling and executing programs will be taught. Lab assignments will be required. (15-0) A

CIS 114 Computer Fundamentals/IBM **1 Sem Hr**
Provides a basic orientation to the IBM PC and its software. Topics include utilization of software and hardware features. Word processing, spreadsheet and DOS will be introduced but not covered in depth. Lab assignments will be required. Students who have taken CIS 133 or plan to enroll in CIS 133 should not take CIS 114. (15-0) A

CIS 115 Computer Fundamentals/MacIntosh **1 Sem Hr**
An introduction to the MacIntosh as a business computer. Features to be presented include the graphical user interface and mouse pointer,

and a simple data base using Hypercard. Assignments using popular business application software packages will be given. Microcomputer compatibility will be addressed and students will observe IBM PC-emulation software and MacIntosh access of MS-DOS created files. (15-0) AD

CIS 116 Introduction to Data Communications **2 Sem Hrs**
Prerequisite: CIS 133 or permission of instructor. Introduces Data Communications. All aspects of electronic data transfer will be addressed including how to use communication hardware and software. Lab assignments and a project are required. (30-0) O

CIS 118 IBM DOS and Windows **2 Sem Hrs**
Provides a basic orientation to PC operating systems. Primary emphasis will be on IBM disk operating systems, DOS and Windows. Includes the basic concepts and storage of floppy and hard disk. Emphasis will be placed on directory and sub directory creation, copying files, recovery of files and other operating systems features needed in the daily operations of microcomputers. Also introduced will be third party enhancement products. (30-0) A

CIS 119 Micro Hardware Install **1 Sem Hr**
Prerequisite: CIS 118. A basic orientation to installing peripheral devices, modems, memory and boards. Preventive maintenance and trouble shooting features will be a major activity. A hands-on class with lab activities. Students will be placed in a repair facility for part of the class. (15-0) O

CIS 120 Micro Computers in Business **3 Sem Hrs**
A survey of small computer systems used for personal, business, and industrial applications. Includes hardware, software, and operating systems. Wordprocessing, spreadsheets, and database software as well as the evaluation and selection of systems will be emphasized. Lab assignments will be required. (45-0) A

CIS 130 Developing Programming Logic **2 Sem Hrs**
Prerequisite: CIS 133. The use of programmer tools to design, develop the logic, and document programs. VTOCs (Visual Table of Contents), Flowcharts, HIPO (Hierarchy plus Input-Process-Output) charts, Massi-Shneiderman charts, pseudocode, and walkthroughs will be used in the design and evaluation of typical problems. (30-0) FW

CIS 132 Spreadsheet Fundamentals **2 Sem Hrs**
Spreadsheet Fundamentals will acquaint the student with the basic operations performed by an electronic spreadsheet. Lotus 1-2-3 operating on IBM or compatible equipment will be used. Development of a project is expected. (30-0) A

CIS 133 Introduction to Computer Information Systems **4 Sem Hrs**
Includes the terminology needed to become computer literate. Labs include electronic mail on the IBM AS400 and PC software of word processing, electronic spreadsheet, graphics, database, and an introduction to BASIC programming. Development of a project is expected. (60-0) A

CIS 134 Lotus 1-2-3 **3 Sem Hrs**
A survey of Lotus 1-2-3 on the IBM PC. Applications will be personal, small business, and industrial. Evaluation of the three parts of Lotus spreadsheets, data base, and graphics will be covered. Outside laboratory assignments will be made. Development of a project is expected (45-0) A

CIS 135 Information Storage and Retrieval **3 Sem Hrs**
Prerequisite: CIS 112 and 133. A text editor will be used to create a file and to modify or delete records from the existing file. DBMS (Data Base Management System) software will be used to extract reports from an existing database. A query language will be covered. (45-0) FW

CIS 136 Microsoft EXCEL **3 Sem Hrs**
EXCEL features will be presented using personal and business applications. Features and techniques to develop solutions to spreadsheet problems will be emphasized. Comparison will be made to other electronic spreadsheets. Expertise with Macro features will be developed. Outside assignments and final project required. (45-0) O

CIS 137 ENABLE 3 Sem Hrs
Prerequisite: CIS 114, CIS 133, OSE 145 or a microcomputer class. Students will study the five ENABLE modules: word processing, spreadsheet, database management, graphics, telecommunications. Emphasis will be on using integrated packages. Problems and design are discussed from the business user standpoint. (45-0) O

CIS 139 Introduction to Programming Using BASIC 2 Sem Hrs
Familiarity with microcomputers. Designed as a first class for computer programmers. An introduction to programming design and development using the Microsoft Quick BASIC programming language. Structured programming principles are emphasized, including internal and external program documentation; sequence, selection and repetition constructs; and modular programming. BASIC commands to accomplish the previous principles will be taught. IBM or compatible microcomputers will be used. (30-0) A

CIS 140 BASIC Programming 1 Sem Hr
Prerequisite: CIS 139 or instructor approval. Advanced BASIC commands will be presented along with continued use of structured programming principles. Arrays, sequential and random files, screen design and error handling will be covered. IBM or compatible microcomputers will be used. (15-0) A

CIS 143 Pascal Programming 3 Sem Hrs
Prerequisite: CIS 133. Includes designing, writing, testing, and debugging Pascal Programs. Programming principles, styles, and approaches to program development will be stressed. (45-0) O

CIS 234 Applied/Advanced LOTUS 1-2-3 3 Sem Hrs
Prerequisite: CIS 134 or working knowledge with LOTUS 1-2-3. An IBM-PC business/industry application-oriented course. Includes management and graphics features and introduces the LOTUS 1-2-3 system utilities. Development of a project is required. (45-0) O

CIS 235 Systems Analysis and Design 3 Sem Hrs
Prerequisite: CIS 133, CIS 130, 1 semester of accounting, and a programming language course. A study of data processing systems and procedures involving analysis of various existing data processing applications in business and industry. Includes a study of integrated or total management information and data processing systems. Emphasis is given to developing detailed procedures in various areas of management. Designed to study the three phases: Analysis of present information flow; system specification and equipment; implementation and documentation of the system. (45-0) FW

CIS 239 Assembler for the Microcomputer 3 Sem Hrs
Prerequisite: CIS 133 and one programming course or consent of the instructor. The early portion of the class will deal with the primary machine instructions, their usage and basic rules. The major portion of the course will concern itself with programming, programming techniques, writing and testing typical applications. (45-0) O

CIS 240 BASIC Programming III 3 Sem Hrs
Prerequisite: CIS 140 and one semester of accounting. Creating, updating, and maintaining general ledger and specialized disk files. Typical business applications with menus, including financial statements, will be programmed, tested, and documented. Special emphasis will be placed on the use of files, virtual arrays, and string handling functions. A modular approach will be used in developing programs. (Offered only as an Independent Study. See Division Chairperson). (45-0) O

CIS 243 Report Program Generator Programming 3 Sem Hrs
Prerequisites: CIS 112 and 133. File, input, calculation and output specifications statements for reporting and routine accounting applications will be covered. Programs will be written, compiled, and tested using RPG-III. (45-0) WE

CIS 245 COBOL Programming 3 Sem Hrs
Prerequisite: CIS 112 and 130 or permission of instructor. The early part of the course will include the advantages of Structured Cobol, its potential applications and basic syntax. The major portion of the course will concern itself with programming. Interactive screen design, arrays and file access will be emphasized. Programs will be implemented on an IBM AS/400. Lab assignments will be required. (45-0) A

CIS 253 Advanced RPG 3 Sem Hrs
Prerequisite: CIS 243 or consent of instructor. The student will be able to design, code, compile, test, and document programs using RPG III which involve advanced programming concepts. (45-0) O

CIS 255 Advanced COBOL 3 Sem Hrs
Prerequisite: CIS 245 or consent of instructor. The student will be able to design, code, compile, test, and document programs using COBOL which involve advanced programming concepts. (45-0) WE

CIS 259 Advanced Assembler Concepts 3 Sem Hrs
Prerequisite: CIS 239 or consent of instructor. The student will be able to design, code, compile, test and document programs using an assembler language. The problems will involve advanced programming concepts. (45-0) O

CIS 260 dBase 3 Sem Hrs
Prerequisite: Any microcomputer class. Upon completion of the course, students will be familiar with the advantages and disadvantages of database processing, modeling and analysis and design. The Assist Mode in dBase is extensively used. Problems and design are discussed from the standpoint of the user. A project and lab work is assigned. (45-0) A

CIS 262 dBase Programming 2 Sem Hrs
Prerequisite: CIS 260. dBase programming commands and the implementation of those commands within executable programs including modeling, analysis and design of databases will occur. Problems and design are discussed from the standpoint of the user. Project and lab work are assigned. (30-0) WE

CIS 265 Introduction to C Programming 3 Sem Hrs
Prerequisite: Any programming language. A general-purpose programming language useful for text processing, numerical calculations, data based programs and interface to operating systems. Normal programming procedures will be covered as well as subroutine calls written in other languages. (45-0) FWE

CIS 270 Expert Systems 3 Sem Hrs
Prerequisite: CIS 118 or microcomputer or mainframe programming class. Instruction in the advantages and theory of expert systems. User-friendly expert systems will be developed from the problem approach. One shell will be used for the application. One project and lab assignments required. (45-0) O

CIS 274 Computer Aided Decisions 2 Sem Hrs
Prerequisites: CIS 133 and GB 245. A interactive business simulation class using the IBM or compatible microcomputer will allow the student to practice the strategic decision making process in management/marketing. Students will explore the use of microcomputer application software in the area of decision support. Topics will include modeling, simulation, query languages, spreadsheets, and expert systems. Strategic decision making situations will be presented to illustrate formulation, solution, and analysis techniques utilized for unstructured decision making in the business environment. (30-0) O

CIS 290-299 Special Projects in Computer Information Systems

Criminal Justice Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

CJ 101 Police Recruit Training 6 Sem Hrs
Prerequisite: Must be currently employed full- or part-time by a law enforcement agency or have completed 54 or more credit hours. Designed to give the student the basic training necessary to assume the duties of a patrol officer. Topics included are constitutional law, criminal law, laws of arrest, search and seizure, investigative techniques, first-aid, firearms, motor vehicle laws, defensive tactics, and patrol techniques. Class meets for a minimum of 440 hours in an 11 1/2 week period. Student should contact the Criminal Justice Training Center office for information concerning enrollment and current course fees. (440-0) DFW

CJ 110 Introduction to Criminal Justice 3 Sem Hrs
An introduction and career orientation to the field of law enforcement and criminal justice. The major areas explored include: the philosophical and historical background of the field; types of courts and agencies in the field and their responsibilities; administrative and technical problems in the field and an understanding of the Bill of Rights Amendments to the Constitution. (45-0) A

CJ 111 Police Administration 3 Sem Hrs
Prerequisite: CJ 110. An analysis and study of the functional divisions of the modern police department. Functions to be studied will include management operations, coordination of activities, communications, recruiting, training, public relations, and a look at the future of law enforcement. A student must earn a grade of C (2.0) or better in this course to obtain an Associate Degree in Criminal Justice. (45-0) FW

CJ 112 Police Operations 3 Sem Hrs
Study of patrol as a basic police function, including both the theoretical and functional aspects. Responsibilities of, purpose, methods, types and means of police patrol. Examination of patrol strength layout, beats, technological advancements affecting the patrol officer. A student must earn a grade of C (2.0) or better in this course to obtain an Associate Degree in Criminal Justice. (45-0) FW

CJ 182 Introduction to Security 3 Sem Hrs
An introduction and career orientation to the field of security. The major areas explored include: origins and development of security, proprietary security, risk analysis, fire protection, safety, internal theft control, insurance cargo security, computer security, institutional security, and the future of security. (45-0) A

CJ 184 Industrial Security I 3 Sem Hrs
Theoretical approach to the role of security officers in business and industry. Plant and business protection. Legal responsibilities and authority of plant security officers. Problems of business, industrial espionage and petty thefts. Report writing. (45-0) O

CJ 185 Industrial Security II 3 Sem Hrs
Prerequisite: CJ 184. Practical approach to the role of security officers concerning fire prevention, safety program, first-aid and internal security. (45-0) O

CJ 187 Current Issues in Security 3 Sem Hrs
A survey of current issues in security. Topics covered include: Terrorism, espionage, substance abuse, employee theft, computer vulnerabilities, and protection of information. (45-0) O

CJ 210 Introduction to Criminal Investigation 3 Sem Hrs
Introduction to criminal investigation procedures including theory of an investigation, conduct at crime scenes, collection and preservation of physical evidence; methods used in police science laboratory; finger prints, ballistics, documents, serology, photography, and related forensic sciences. A student must earn a grade of C (2.0) or better in this course to obtain an Associate Degree in Criminal Justice. (45-0) FW

CJ 220 Crime Laboratory Techniques 3 Sem Hrs
Prerequisite: CJ 110 and sophomore standing or permission of instructor. An introductory course in scientific criminal investigation and criminalistics; included are specifics in the proper handling and transmittal of evidence to the crime laboratory, laboratory aids that are available, preliminary screening of certain kinds of physical evidence and basic understanding of the probabilities related to examination of physical evidence. (45-30) DFW

CJ 230 Introduction to Corrections 3 Sem Hrs
Designed to provide an understanding of the agencies and institutions that have legal authority over the custody and supervision of offenders. Major areas discussed include the history and development of corrections, community based corrections, local, state and federal correctional institutions, and institutional administration. The correctional treatment of female, male and juvenile offenders will be explored. The role of corrections in the total system of criminal justice will also be covered. One of five courses which will meet the state requirement of 15 credit hours for employment as a correctional officer. Student must earn a grade of C (2.0) or better in this course to meet this state requirement. (45-0) EA

CJ 232 Client Relations in Corrections 3 Sem Hrs
Designed to create an awareness of the effects of culture and discrimination on the attitude formation of individuals and assist students in identifying various professional responses to human behavior. One of five courses which will meet the state requirement of 15 credit hours for employment as a corrections officer. Student must earn a grade of C (2.0) or better in this course to meet this state requirement. (45-0) EF

CJ 233 Client Growth and Development 3 Sem Hrs
Designed to enable students to differentiate the various factors that are involved in the development and growth of the criminal. Included will be a discussion of the biological, environmental, and psychological influences. Specific problems such as sexual, substance abuse and medical disorders will be reviewed. Intervention strategies will also be discussed. One of five courses which will meet the state requirement of 15 credit hours for employment as a corrections officer. Student must earn a grade of C (2.0) or better in this course to meet this state requirement. (45-0) EW

CJ 235 Correctional Institutions and Facilities 3 Sem Hrs
Designed to present an overview of correctional institutions and facilities. Topics covered include the purpose of prisons and correctional institutions, treatment and rehabilitating programs, management and organization of correctional institutions, custodial care, safety and security, and future concerns. One of five courses which will meet the state requirement of 15 credit hours for employment as a correctional officer. Student must earn a grade of C (2.0) or better in this course to meet this state requirement. (45-0) EF

CJ 236 Community Based Corrections 3 Sem Hrs
An examination of alternative correctional programs commonly referred to as Community Based Corrections. Major topics covered include: the development, history and Michigan laws governing community based corrections, diversion programs, pretrial release, probation, restitution and community service, temporary release, half-way houses, parole, female programs, and sex and drug offender programs. (45-0) WE

CJ 238 Legal Issues in Corrections 3 Sem Hrs
A study of the primary legal issues correctional personnel will be entrusted to enforce and safeguard. Topics covered include an overview of U.S. Constitutional law, the court process from arrest through trial, the structure and function of the S.S. and state courts, and prisoner rights. One of five courses which will meet the state requirement of 15 credit hours for employment as a correctional officer in the state of Michigan. Student must earn a grade of C (2.0) or better in this course to meet this state requirement. (45-0) EFW

CJ 250 The Juvenile Offender 3 Sem Hrs
Major emphases are on the: Theories of causation as applied to juvenile delinquency; work of youth agencies; Michigan Juvenile Law and constitutional safeguards for juveniles; and new development in the prevention of juvenile crime. A student must earn a grade of C (2.0) or better in this course to obtain an Associate Degree in Criminal Justice. (45-0) EFW

CJ 270 Evidence and Criminal Procedure 3 Sem Hrs
A study of the rules of evidence as it affects the criminal justice process. Includes an overview of criminal procedure as it pertains to the rules of arrest, search, and seizure which regulate law enforcement and protects citizen's rights of privacy and presumed innocence. A student must earn a grade of C (2.0) or better in this course to obtain an Associate Degree in Criminal Justice. (45-0) A

CJ 271 Criminal Law 3 Sem Hrs
Prerequisite: A previous course in Criminal Justice or American Government or permission of the instructor. Elements and proof in crime of frequent concerns in law enforcement with reference to principal rules of criminal liability. Importance of criminal law at the enforcement level is considered from crime prevention to courtroom appearance. A student must earn a grade of C (2.0) or better in this course to obtain an Associate Degree in Criminal Justice. (45-0) A

CJ 280 Internship in Criminal Justice 3 Sem Hrs
Prerequisite: Minimum 15 credits Criminal Justice courses and permission of faculty. Field placement in a criminal justice setting (police department, court, juvenile center, etc.). An attempt will be made to find field education placements compatible with students' interests and agency needs. (10-160) SD

CJ 290-299 Special Projects in Criminal Justice

Computer Numerical Control Courses ♦♦♦♦

CNC 160 Computer Numerical Control Programming I

3 Sem Hrs

Prerequisite: MS 114 or basic knowledge of machining processes and MTH 103 or MT 110. Primary emphasis on manual programming machines with various capabilities, including absolute and incremental positioning systems; tab sequential, work address, and menu driven formats; and machines with two, three, four, and five axis control secondary emphasis on computer assisted programming. (45-0) FWE

CNC 161 Computer Numerical Control Programming II

3 Sem Hrs

Prerequisite: CNC 160. Advanced training in computer assisted programming methods for numerical controlled machining. Various programming languages will be taught with emphasis placed on Compact II and Encode. Computer terminals will be utilized in the application of both Compact II and Encode programming. (45-0) WE

CNC 201 CNC Tooling and Special Setups

2 Sem Hrs

Prerequisite: MS 114 or basic knowledge of machining processes. Primary emphasis will be on carbide insert selection, cutting speed, feed, tool geometry, surface finish, and workpiece fixturing. Secondary emphasis will be on history of cutting tools, manufacture of carbide, advanced cutting materials. (30-0) AE

CNC 211 Mitsubishi 410 EIA/ISO Control

4 Sem Hrs

Prerequisite: MS 115, CAD 114, CNC 160 and 201. The machine used will be the Saginaw Machine Systems Accu-Cell 410 two-axis flat-bed front turning center. Primary emphasis will be on all aspects of producing quality parts — including EIA/ISO programming, tooling setups, part setups, machining, and mental attitudes. Secondary emphasis will be on parameters and maintenance. (0-100) AE

CNC 212 Heidenhain TNC 151 Control

4 Sem Hrs

Prerequisite: MS 115, CAD 114, CNC 160 and 201. The machine used will be the Bridgeport Series II Interact II three-axis knee and column milling machine. Primary emphasis will be on all aspects of producing quality parts — including EIA/ISO and dialog programming, tooling setups, part setups, machining, and mental attitudes. Secondary emphasis will be on parameters and maintenance. (0-100) AE

CNC 213 OSP-5000LG Control

4 Sem Hrs

Prerequisite: MS 115, CAD 114, CNC 160 and 201. The machine used will be the Okuma LB-15 two-axis slant-bed rear turning center. Primary emphasis will be on all aspects of producing quality parts — including EIA/ISO and conversational programming, tooling setups, part setups, machining, and mental attitudes. Secondary emphasis will be on parameters and maintenance. (0-100) AE

CNC 214 Anilam G EIA/ISO Control

4 Sem Hrs

Prerequisite: MS 115, CAD 114, CNC 160 and 201. The machine used will be the YCM Supermax 40 three-axis knee and column milling machine. Primary emphasis will be on all aspects of producing quality parts — including EIA/ISO programming, tooling setups, part setups, machining, and mental attitudes. Secondary emphasis will be on parameters and maintenance. (0-100) AE

CNC 215 General Numeric 10TF Control

4 Sem Hrs

Prerequisite: MS 115, CAD 114, CNC 160 and 201. The machine used will be the MHP MTC-3 two-axis slant-bed rear turning center. Primary emphasis will be on all aspects of producing quality parts — including EIA/ISO and conversational programming, tooling setups, part setups, machining, and mental attitudes. Secondary emphasis will be on parameters and maintenance. (0-100) AE

CNC 216 Mazatrol M-2 Control

4 Sem Hrs

Prerequisite: MS 115, CAD 114, CNC 160 and 201. The machine used will be the Mazak VQC-15/40 four-axis double-column machining center. Primary emphasis will be on all aspects of producing quality parts — including EIA/ISO and conversational programming, tooling setups, part setups, machining, and mental attitudes. Secondary emphasis will be on parameters and maintenance. (0-100) AE

CNC 217 JAPT 3J EIA/ISO Control

4 Sem Hrs

Prerequisite: CNC 212 or 214, or 216. The machine used will be the JAPAX LV3 four-axis wire electrical discharge machine. Primary emphasis will be on all aspects of producing quality parts — including EIA/ISO programming, wire alignment, part setups machining, and mental attitudes. Secondary emphasis will be on parameters and maintenance. (0-100) AE

CNC 218 Boston Digital SPC-II EIA/ISO Control

4 Sem Hrs

Prerequisite: CNC 216. The machine used will be the Boston Digital BostoMatic 1000 Five-axis machining system. Primary emphasis will be on all aspects of producing quality parts — including EIA/ISO programming, tooling setups, part setups, machining, and mental attitudes. Secondary emphasis will be on parameters and maintenance. (0-100) AE

CNC 221 Concept Programming

4 Sem Hrs

Prerequisites: MS 115, CAD 114, CNC 160 and CNC 201. As off-line programming software for two-axis lathe work, three- or four-axis mill work, and two- or four-axis wire EDM work. Operates on an IBM PC AT able to download to the General Numeric 10TF control on the MHP MTC-3 turning center, to the Japt 3J control on the Japax LV3 wire EDM, and other. Primary emphasis is on the creation of error-free part programs, including part geometry, tool path, debugging, and downloading. (0-100) AE

CNC 222 E-Z Cam IV

4 Sem Hrs

Prerequisites: MS 115, CAD 114, CNC 160 and CNC 201. An offline programming software for 2-D mill work, operating on an NEC APC-IV PC and able to download to the Deidenhain TNC-151 control on the Bridgeport Series II Interact II three-axis knee and column milling machine. Primary emphasis is on the creation of error free part programs—including part geometry, tool path, debugging, and downloading. (0-100) AE

CNC 223 TM-APT-GI

4 Sem Hrs

Prerequisites: MS 115, CAD 114, CNC 160 and CNC 201. An offline programming software for two-axis lathe work, operating on an Okuma TM-APT-G programming terminal and able to download to the OSP-5000 LG control on the Okuma LB-15 turning center. Primary emphasis is on the creation of error free part programs—including part geometry, tool path, debugging, and downloading. (0-100) AE

CNC 224 Anicam

4 Sem Hrs

Prerequisites: MS 115, CAD 114, CNC 160 and CNC 201. An offline programming software for two-axis lathe work and three-axis mill work, operating on an IBM-PC-AT and able to download to the Anilam G control on the YCM Supermax 40 milling machine. Also downloads to the Mitsubishi 410 control on the SMS Accu-Cell turning center, and other machinery in the lab. Primary emphasis is on the creation of error free part programs—including part geometry, tool path, debugging and downloading. (0-100) AE

CNC 226 CAM M-2

4 Sem Hrs

Prerequisites: MS 115, CAD 114, CNC 160 and CNC 201. An offline programming software for three or four-axis mill work, operating on a Mazak CAM System and able to download to the Mazatrol M-2 control on the Mazak VQC-15/40 machining center. Primary emphasis is on the creation of error free part programs—including part geometry, tool path, debugging and downloading. (0-100) AE

CNC 228 Nicam IV

4 Sem Hrs

Prerequisites: MS 115, CAD 114, CNC 160 and CNC 201. An offline programming software for up to four-axis lathe work and up to five-axis mill work, operating on a Compaq 386/40 and able to download to the SPC-II control on the BostoMatic machining system, and other machinery in the lab. Primary emphasis is on the creation of error free part programs—including part geometry, tool path, debugging, and downloading. (0-100) AE

CNC 229 Expedite 3-D Programming

4 Sem Hrs

Prerequisites: MS 115, CAD 114, CNC 160, CNC 161 and CNC 201. An offline programming software for up to four-axis lathe work and up to five-axis mill work, operating on a Compaq 386/40 and able to download to the SPC-II control on the BostoMatic machining system. Primary emphasis is on the creation of error-free part programs, including part geometry, tool path, debugging, and downloading. (0-100) AE

CPS 125 Computer Literacy **3 Sem Hrs**
An exposure to computers and their applications. A brief introduction to programming and operating systems. Major applications such as word processing, data base, spreadsheet, and graphics are examined. Understanding the specialized vocabulary of computers will be emphasized throughout the course. Emphasis is placed on use of Apple and/or Macintosh computers. This course may not be substituted for CIS 133. (45-0) A

CPS 140 BASIC Programming for Math **2 Sem Hrs**
Prerequisite: MTH 111 or 119 or either concurrently. Designed to prepare students to use the BASIC language on a computer. Mathematical applications of the computer will be studied. Programming topics include arrays, functions, graphing, simulation, modularization and sorting. (30-0) A

CPS 165 FORTRAN Programming **3 Sem Hrs**
Prerequisite: MTH 119 or 111. Introduction to the use of the FORTRAN programming language as an aid to problem solving. The emphasis will be on solving problems of a scientific or mathematical nature. Students will write, debug, and execute several programs. (45-0) A

CPS 171 Computer Science I **3 Sem Hrs**
Prerequisites: MTH 151 or four years of high school-college preparatory mathematics. An introduction to problem solving and algorithm development using the Pascal language. Topics include: program design and development, Pascal control structures (FOR, CASE, REPEAT, WHILE, IF THEN ELSE), arrays, and records. (45-0) A

CPS 240 Advanced BASIC Programming for Math **2 Sem Hrs**
Prerequisite: CPS 140. An extended study of the BASIC programming language. Included among the advanced topics will be a study of files, graphics, and the manipulation of vectors and matrices. Mathematical applications of these programming techniques will be studied. (30-0) O

CPS 271 Computer Science II **3 Sem Hrs**
Prerequisite: CPS 171 OR both CIS 143 and MTH 151. Continuation of the programming concepts introduced in CPS 171 with emphasis on data structures and algorithm design. Other topics covered include an introduction to files, recursion, internal search and sort methods, and graphics. A team approach to large projects will be introduced. (45-0) W

CPS 281 Computer Literacy for Educators **3 Sem Hrs**
An exposure to computers and their applications. Emphasis will be placed on types of software, software evaluations, classroom applications, computer-teacher resources, and minimal programming in LOGO and/or BASIC. Major applications for classroom management, such as word processing, spreadsheets, and data base will be examined. The understanding of the specialized vocabulary of computers will be emphasized throughout the course. (45-0) O

CPS 282 LOGO for Educators **2 Sem Hrs**
The basic philosophy of LOGO education, the syntax of the LOGO Writer package, and applications of LOGO to many content areas with varying age groups will be examined. Students will have the use of a personal copy of LOGO Writer for the semester, in a version compatible with his/her available computer system (Apple IIe, IIc, IBM PC Jr, or Commodore 64) according to the site license agreement between Delta College and LCSL. No previous knowledge of computer is required. (30-0) O

CPS 283 Introduction to HyperCard **2 Sem Hrs**
HyperCard is a standard Macintosh Computer program which makes it easy for users to combine text, graphics, presentations, demonstrations, and animated graphic programs. HyperCard is being used extensively in education and business. This course will introduce students to HyperCard and to the Macintosh environment. Upon completion of the course, students will be able to create their own programs and modify existing programs. (30-0) O

CPS 280-289 Restricted Enrollment Computer Science Courses

CPS 290-299 Special Projects in Computer Science

Credit Union Management Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

CRM 160 Principles of Credit Unions **3 Sem Hrs**
Designed to familiarize students with basic concepts of credit unions and

the Credit Union Movement. Traces the historical development of credit unions as non-profit, member-owned financial cooperatives, and deals with operational, regulatory, legal, leadership, risk management and ethical considerations. Emphasizes credit union similarities with and differences from other categories of financial institutions. Note: Final examination will qualify for CCUE credit for those also enrolled in CCUE course #100. (45-0) F

CRM 201 Credit Union Financial Counseling **3 Sem Hrs**
Focuses on responsibility of the credit union toward member as customer and owner. Emphasizes role of planning in any counseling exercise, and works toward satisfaction of member needs through listening, exploring skill development, problem-solving and decision-making. Looks at financial planning on a personal and family level, including retirement and estate planning. NOTE: Final examination will qualify for CCUE credit for those also enrolled in CCUE course #800. (45-0) F

CRM 212 Credit Union Accounting **3 Sem Hrs**
Prerequisite: ACC 211 with a C (2.0) minimum grade. Includes a study of credit union corporate basic theory and methodology, reporting of changes in financial position, analysis of various reserve accounts, and accounting data as used in performance measurement, regulatory compliance, decision making, planning, and control. Note: Final examination will qualify for CCUE credit for those also enrolled in CCUE course #400. (45-0) W

Chemical Technology Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

CT 100 Introduction to Chemical Technology **1 Sem Hr**
Designed to introduce the Chemical Technology student to the study of science, scientific method, and the role and scope of duties of the Chemical Technologist. Technical writing and resume preparation will be included along with study skills and attitudes necessary for the study of science. (15-0) FW

Dental Assisting Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

DA 110 Clinical Dental Assisting I **6 Sem Hrs**
Provides the opportunity to develop the skills utilized in chairside assisting for general clinical procedures. The theory and manipulation of dental materials will be integrated as they apply to these procedures. (45-90) FD

DA 113 Oral Anatomy and Physiology **4 Sem Hrs**
A study of the basic structures and physiology of the oral cavity and head and neck. Included will be oral histology, embryology, and pathology as they relate to the development of the dental structure. (60-0) FD

DA 120 Dental Assisting II **6 Sem Hrs**
Prerequisite: Completion of DA 110, DA 113, BIO 102, and HSC 140 with a C (2.0) minimum grade in each. The theory and application of the recognized dental specialties as well as the theory and manipulation of pertinent dental materials will be explored. Field trips and dental assisting assignments in the Dental Hygiene Clinic will be required. (45-90) WD

DA 123 Dental Radiology **4 Sem Hrs**
Prerequisite: Completion of DA 110, DA 113, BIO 102, and HSC 140 with a C (2.0) minimum grade in each. Emphasizes principles of radiation physics, factors affecting radiographic images, biological effects of radiation, protective measures and responsible use of x-rays and operation of equipment. Includes laboratory practice in application of commonly used dental radiographic procedures. Students must supply own patients to complete course requirement. (30-60) WD

DA 126 Dental Laboratory Procedures **1 Sem Hr**
Prerequisite: Completion of DA 110, DA 113, BIO 102, and HSC 140 with a C (2.0) minimum grade in each. The manipulation of impression materials and gypsum products. Field trips may be required. (0-30) WD

DA 127 Dental Health and Nutrition **2 Sem Hrs**
Prerequisite: Completion of DA 110, DA 113, BIO 102, and HSC 140 with a C (2.0) minimum grade in each. Oral hygiene, general and applied nutrition as well as patient motivation techniques will be covered. Dental health projects may be required. (30-0) WD

DA 128 Expanded Dental Functions 2 Sem Hrs
Prerequisite: Completion of DA 120, DA 123, DA 126, DA 127, and BIO 101 with a C (2.0) minimum grade in each. Designed to provide knowledge and skills needed to perform expanded functions, as permitted by the current rules and regulations of the Department of Licensing and Regulations and the Michigan State Board of Dentistry. (15-37.5) SD

DA 129 Dental Office Management 3 Sem Hrs
Prerequisite: Completion of DA 120, DA 123, DA 126, DA 127, and BIO 101 with a C (2.0) minimum grade in each. Emphasizes fundamental office skills in managing patient and business records, handling the telephone and visitors, controlling the appointment book, and processing dental claim forms. Basic financial procedures and computer usage will be included. (45-0) SD

DA 130 Dental Assisting Internship 7 Sem Hrs
Prerequisite: Completion of DA 128 and DA 129 with a C (2.0) minimum grade in each. Students will be assigned to local dental care facilities and under supervision will perform chairside assisting techniques, laboratory procedures, and dental office management skills. (0-320) SD

DA 133 Dental Assisting Internship Seminar 2 Sem Hrs
Prerequisite: Completion of DA 128 and DA 129 with a C (2.0) minimum grade in each. Concurrent enrollment in DA 130. Emphasis will be on developing professional behaviors and improving communication skills. (30-0) SE

DA 295 Radiography For Dental Auxiliaries 4 Sem Hrs
Prerequisite: Knowledge of dental anatomy and terminology and one year of full-time work experience as a chairside dental assistant. The theory of radiation characteristics, production, protection and exposure effects as well as the practical application needed to produce diagnostic radiographs will be discussed and practiced. Students must provide their own patients for laboratory time. (30-60) O

DA 298 DA Expanded Duties 2 Sem Hrs
Prerequisite: Completion of an Accredited DA Program. Designed to provide knowledge and skills needed to perform expanded Dental Assisting functions, as permitted by the current rules and regulations of the Michigan Department of Licensing and Regulations and the State Board of Dentistry. (15-37.5) O

DA 290-299 Special Projects in Dental Assisting

Dental Hygiene Courses ◆◆◆◆ ◆◆◆◆ ◆◆◆◆

DH 110 Dental Infection Control 2 Sem Hrs
Prerequisite: Admission to the Dental Hygiene Program. Introduces the theory and applications of procedures and skills necessary to control infectious agents. Techniques for proper interviewing and reviewing of medical histories will be presented. Opportunities to practice Universal Precautions for the patient, professional, environment and facilities will be provided. (15-30) FD

DH 114 Oral Health 3 Sem Hrs
Prerequisite: Admission to the Dental Hygiene Program. A study of the characteristics, origin, and development of fluoride, dentifrices, mouthwashes, and deposits that affect the tooth surface. Emphasis will be placed on toothbrushing, auxiliary aids and dental appliances. Provides the basic information for developing a plaque control program. (30-30) FD

DH 115 Clinical Techniques 4 Sem Hrs
Prerequisite: Admission to the Dental Hygiene Program. Introduces the theory and application of the various periodontal instruments and instrument sharpening skills that are necessary for proper use in the dental diagnostic and therapeutic services. The technique for taking and recording vital signs and the application of fluoride will be incorporated. Students must also complete one oral prophylaxis. (30-90) FD

DH 116 Prevention Nutrition 2 Sem Hrs
Prerequisite: Admission to the Dental Hygiene Program. A study of nutrients and foods and their effects on general health as well as oral health. Particular emphasis will be placed upon the relevance of nutrition

to the practice of preventive dentistry. (30-0) FD

DH 117 Dental Anatomy 3 Sem Hrs
Prerequisite: Admission to the Dental Hygiene Program. Introduces dental anatomical terminology, anatomy of oral structures, and the morphology of the human dentition. Includes the function, structure, and the arrangement of the human dentition. Laboratory sessions will develop the skills necessary for detecting possible oral cancer and occlusion problems. (30-45) FD

DH 118 Anatomy of the Head and Neck 3 Sem Hrs
Prerequisite: Admission to the Dental Hygiene Program. A detailed study of the anatomy of the human head and neck, and their surrounding structures. Lecture and laboratory will cover basic anatomical terminology and a complete description of the skeletal system, muscular system, nervous system, lymphatic system, and the vascular system. (30-30) FD

DH 120 Periodontics 2 Sem Hrs
Prerequisite: DH 110, 114, 115, 116, 117, and 118 with a C (2.0) minimum grade in each. The student must understand the biology of the periodontium; the etiology; pathology, and epidemiology of periodontal diseases, and the prevention and treatment of periodontal diseases. (30-0) WD

DH 122 Oral Histology and Embryology 2 Sem Hrs
Prerequisite: DH 110, 114, 115, 116, 117, and 118 with a C (2.0) minimum grade in each. The study of the embryologic development of the oral cavity. The student will be able to identify and classify abnormal conditions of the oral cavity and supporting structures. A microscopic study of the histology of the human dentition and the surrounding supporting structures will be included in the course content. (30-0) WD

DH 123 Dental Radiography 3 Sem Hrs
Prerequisite: DH 110, 114, 115, 116, 117, and 118 with a C (2.0) minimum grade in each. The theory and techniques needed to produce diagnostic radiographs will be provided. Includes radiation characteristics, production, protection and exposure effects. Examination techniques will be practiced during laboratory time. Students must provide their own patients for radiographs taken during laboratory sessions for diagnostic purposes. (30-45) WD

DH 124 Pharmacology 3 Sem Hrs
Prerequisite: DH 110, 114, 115, 116, 117, and 118 with a C (2.0) minimum grade in each. Introduces the student to drugs and anesthetic agents commonly used in the dental practice, including the origin of drugs, their physical and chemical properties, and their preparation. Methods of administration and biological effects of drugs will be covered. (45-0) WD

DH 125 Clinical Dental Hygiene I 6 Sem Hrs
Prerequisite: DH 110, 114, 115, 116, 117, and 118 with a C (2.0) minimum grade in each. The proper use of the appropriate instruments, tray set-ups, fluoride application, oral disease control and tissue evaluation will be incorporated into clinical hours. Fundamentals of treatment planning, recall systems, techniques for handling patients with special needs, and methods to evaluate tissue conditions will be included in the lectures. Clinical patient requirements will be specified. (30-120) WD

DH 131 Clinic II Seminar 2 Sem Hrs
Prerequisite: DH 120, 122, 123, 124, and 125 with a C (2.0) minimum grade in each. Introduces the theory of amalgam polishing, ultrasonic scaling, team concepts, and the hygienist's duties in myofunctional therapy. (30-0) SD

DH 135 Clinical Dental Hygiene II 4 Sem Hrs
Prerequisite: DH 120, 122, 123, 124, and 125 with a C (2.0) minimum grade in each. Refines the skills learned from previous courses and provides the opportunity to demonstrate the techniques of advanced instrumentation including root planing, amalgam polishing, and ultrasonic scaling. Clinical patient requirements will be specified. (0-120) SD

DH 211 Clinic III Seminar 1 Sem Hr
Prerequisite: DH 131 and 135 with a C (2.0) minimum grade in each. The study of the techniques and philosophies of handling patients with

special needs. (15-0) FD

DH 212 Dental Specialties

1 Sem Hr

Prerequisite: DH 131 and 135 with a C (2.0) minimum grade in each. A study of the various dental specialties and the role of the dental hygienist within these areas. (15-0) FD

DH 213 Oral Pathology

3 Sem Hrs

Prerequisite: DH 131 and 135 with a C (2.0) minimum grade in each. The study of the process, identification and classification of oral diseases. Emphasis will be placed on the prevention of the diseases within the scope of responsibility and practice of the dental hygienist. (45-0) WD

DH 214 Dental Therapeutics and Devices

4 Sem Hrs

Prerequisite: DH 131 and 135 with a C (2.0) minimum grade in each. The theory and practical portion is concerned with the properties, manipulation and clinical application of dental materials and devices used in dental procedures. (45-45) FD

DH 215 Clinical Dental Hygiene III

6 Sem Hrs

Prerequisite: DH 131 and 135 with a C (2.0) minimum grade in each. Provides the opportunity to practice and increase the students' proficiency skill levels learned from previous Dental Hygiene courses. Clinical patient requirements will be specified. (0-180) FD

DH 216 Community Dentistry I

2 Sem Hrs

Prerequisite: DH 131 and 135 with a C (2.0) minimum grade in each. Provides the theoretical base for assessing, designing implementing, and evaluation dental health improvement programs. (30-0) FD

DH 221 Clinic IV Seminar

2 Sem Hrs

Prerequisite: DH 211, 212, 213, 214, 215, and 216 with a C (2.0) minimum grade in each. The study of the history and organizational structure of the A.D.H.A.; ethics and jurisprudence of the dental hygiene professional. The hygienist role-in office management and techniques for job selection will be included. (30-0) WD

DH 225 Clinical Dental Hygiene IV

7 Sem Hrs

Prerequisite: DH 211, 212, 213, 214, 215, and 216 with a C (2.0) minimum grade in each. Provides the opportunity to perfect hygiene skills learned in all previous Dental Hygiene courses, plus learn advanced instrumentation and pit and fissure application skills. Clinical patient requirements will be specified. (15-180) WD

DH 226 Expanded Hygiene Duties

2 Sem Hrs

Prerequisite: DH 211, 212, 213, 214, 215, and 216 with a C (2.0) minimum grade in each. The application of pit and fissure sealants; rubber dam; demonstrate chairside assisting techniques; placement and removal of intercoronal temporary fillings and crown; removal of sutures; pulp vitality testing; and intraoral photography will be included. The student must perform these duties at the State of Michigan clinical competency levels. (15-45) WD

DH 227 Community Dentistry II

1 Sem Hr

Prerequisite: DH 211, 212, 213, 214, 215, and 216 with a C (2.0) minimum grade in each. Based upon the student assessment of dental health need for one or more target populations, students will design, implement and evaluate dental health improvement programs. NOTE: This course may require evening, weekends, and holiday assignments. (0-45) WD

DH 290-299 Special Projects in Dental Hygiene

Drafting Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦

DRF 101 Drafting for Graphic Art

1 Sem Hr

A course designed to develop basic drafting skills for people entering the field of Graphic Arts. Includes proper use of equipment, drawing and measuring lines, measuring space, sheet layout and orthographic projections. (5-10) FDWD

DRF 104 Basic of Industrial Drafting

4 Sem Hrs

Recommended for students with no drafting experience or less than two years high school drafting. Course covers spatial visualization and basic

concepts of drafting. Sketching, orthographic and multi-view drafting, lettering, use of instruments, sections and conventions, isometrics, and an introduction to dimensioning. (15-105) FW

DRF 105 Beginning Industrial Drafting

3 Sem Hrs

Prerequisite: Successful completion of at least one year of high school drafting as verified by a Delta College counselor. Elements of drafting for technicians. Lettering standards, use of instruments and equipment, orthographic and multi-view drafting and sketching, sections and conventions, axonometric and oblique drawing. (15-75) FW

DRF 107 Computer-Aided Industrial Drafting

3 Sem Hrs

Prerequisite: DRF 104 or 105, and CAD 114. Training in manual and computer-aided methods of making sets of industrial working drawings. Successful completion requires students to demonstrate skills in organizing and making views, dimensions, notes, and specifications for simple parts and assemblies. The application of graphic symbols, view revolution, and auxiliary projections are introduced by both manual and computer aided methods. (30-30) FW

DRF 120 Beginning Industrial Blueprint Reading

2 Sem Hrs

Course designed for machine operators, welders, or assemblers with little or no blueprint reading experience. Includes manipulation of basic fractions and decimals and as applied to the reading of blueprints, reading measuring instruments, basic geometric figures, drafting and blueprinting procedures, basic orthographic projection auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title block, change block, list of materials, and notes. Credit may be earned in DRF 120 or WELD 120 but not both. (30-0) WE

DRF 122 Blueprint Reading for Welders and Fabricators

2 Sem Hrs

Prerequisite: DRF 120 or basic knowledge of blueprint reading. Course designed specifically for welders and fabricators working with welding drawings. A more in-depth treatment of basic blueprint information, orthographic projection, assembly drawings, and geometric tolerancing. Emphasis placed on welding symbols and welding drawings. Credit may be earned in DRF 122 or WELD 122 but not both. (30-0) WE

DRF 124 Blueprint Reading for Machine Tool Operators

2 Sem Hrs

Prerequisite: DRF 120 or permission of instructor. Course is designed for machinists, lathe operators, mill operators, and grinder operators. More in-depth treatment of working drawings, supplementary views and information, materials and processes commonly found in machining drawings is covered. (30-0) WE

DRF 128 Geometric Tolerancing

2 Sem Hrs

Prerequisite: DRF 120 or permission of instructor. Primary emphasis is on geometric symbols used in place of written notes on industrial drawings including datum, symbols, and other items tolerancing to the geometry of the part. Credit may be earned in either DRF 128 or SKDR 128 but not both. (30-0) WS

DRF 129 Advanced Geometric Tolerancing

2 Sem Hrs

Prerequisite: DRF 128. A continuation of DRF 128, with a more in-depth study of positional tolerance, datums, form tolerance, gauging and verifying principles with advanced applications. (30-0) O

DRF 155 Drafting for Engineers

3 Sem Hrs

A study of the graphic language applied to mechanical and civil design, consisting of multiview and isometric drawing and descriptive geometry. Emphasis placed on developing skills in use of instruments, lettering, principles of orthographic projection, multiview drawings, isometric drafting, sectioning, auxiliary views, revolutions, developments, ANSI dimensioning, ANSI tolerancing, annotation and descriptive geometry. Course is designed for engineering majors. Credit can be earned in DRF 155 or EGR 165 but not in both. (30-60) O

DRF 256 Descriptive Geometry

3 Sem Hrs

Prerequisite: MT 110 or MTH 103 and DRF 104 or DRF 105 or DRF 155. Emphasis on space visualization and processes of solution. Problems comprise combinations of points, lines, planes, intersections, developments, warped surfaces, true angles, true size and shape, vectors, shades and shadow, and conics. (15-75) WD (FE-Every other year)

DRF 257 Advanced Industrial Drafting 6 Sem Hrs
Prerequisite: DRF 256. (MT 205 may be taken concurrently.) Specific assigned problems requiring knowledge in the use of design layouts. Development of skills in the organization and presentation of complete sets of working drawings: details, assemblies, and related specifications. Apply knowledge of a variety of manufacturing and fabrication processes. Use of standards, manufacturers' and suppliers' catalogs and engineering handbooks. Introduction to drafting symbols, tabulation techniques, and engineering office procedure. (30-120) SD (WE-Every other year)

DRF 290-299 Special Projects in Drafting

Economics Courses ♦♦♦♦♦♦♦♦♦♦

ECN 111 Essentials of Economics 3 Sem Hrs
A survey of the operation of the American economy as a mixed economy and the principles of contemporary economic analysis that underline its operation. Credit may be earned in either ECN 111 or 221 but not both. (45-0) O

ECN 114 Consumer Economics 3 Sem Hrs
Deals with everyday application of economic principles to personal decision-making and examines the role of the consumer in the market place and some of the pitfalls encountered. (45-0) O

ECN 166 Money and Banking 3 Sem Hrs
Designed to provide a working knowledge of the various integral parts of the American Banking System. How the Federal Reserve System and current economic factors have a direct bearing on interest rates, yields, price levels and the growth of money supply are presented in detail, the basic monetary theory needed by banking employees is presented in the course. The course is designed to meet the needs of the American Institute of Banking program. (45-0) EF

ECN 221 Principles of Economics I 4 Sem Hrs
The study of how the American economics system works to produce and distribute goods and services given limited resources. The following topics are covered: supply and demand analysis; inflation, unemployment and gross national product; the activities and impact of the consumer, business and government on the economy; interest rates, money and banking; and the business cycle. Credit may be earned in either ECN 111 or 221 but not both. (60-0) A

ECN 222 Principles of Economics II 4 Sem Hrs
Prerequisite: ECN 221. A continuation of ECN 221 with emphasis on the individual units in the economy. The following topics are covered: further study of supply and demand; business behavior based on industry structure; regulated business (utilities); anti-trust laws; unions and labor laws; international trade and finance; and selected current problems. (60-0) A

ECN 268 International Studies in Economics 4 Sem Hrs
An analysis of foreign economic systems, including the private-public mix, role of international trade, foreign solutions to common economic problems, and specific timely topics. Includes classroom lectures, individual consultation and international field of study. Expenses for field study must be borne by the student. By prior arrangement with appropriate faculty, students may also take International Studies in the following disciplines: GEO 268, GB 268, SOC 268. (60-0) O

ECN 290-200 Special Projects in Economics

Education Courses ♦♦♦♦♦♦♦♦♦♦

ED 100 Exploratory Teaching 3 Sem Hrs
Prerequisite: For pre-elementary or special education students: (1) ENG 111 with a minimum grade of C (2.0); (2) minimum of 24 credits and overall 2.0 gpa; (3) minimum of 2 courses from the following and at least a C+ in each: ART 105, ART 113, ED 101, ENG 251, MTH 110, MUS 100,

PEH 266, PSY 223. For pre-secondary education students: (1) minimum of 24 credits with overall 2.0 gpa; (2) ENG 111 with a minimum grade of C (2.0); (3) minimum of 2 courses in the teaching major or minor and at least a C+ in each. A comprehensive survey of teaching—to help the student understand the everyday work of a teacher. One day a week will be spent in a school observing and aiding a teacher. Also, students meet for one hour a week for instruction on techniques, for assessment of their work, for information concerning career choices and for sharing their experiences with each other. (15-90) A

ED 101 Education of the Exceptional Child 3 Sem Hrs
For present or prospective teachers of the non-typical child. Emphasized the characteristics indigenous to the exceptional child. An overview of the educational needs of and approaches to exceptional children will be included to give the students an opportunity to study the various programs offered. (45-0) O

ED 107 Books for Pre-School Children 3 Sem Hrs
A survey of many types of literature for the pre-school child with emphasis on book selection, correlation with other language arts, and developing techniques of presentation, oral reading and story telling. (45-0) FW

ED 210 Introduction to Teaching as a Second Language 2 Sem Hrs
A basic introductory course on the principles and procedures in teaching English to non-native speakers at all levels. Designed for professional or volunteer ESL instructors with little or no previous experience in this field. (30-0) O

ED 221 Education for Older Adults 2 Sem Hrs
Examines the educational needs of older adults, the role of the older learner, and typical programs. Emphasis is given to planning and development of educational services. (30-0) O

ED 231 Retirement Education 2 Sem Hrs
Examines the problems and prospects of retirement. The uses of educational materials are emphasized as retirement planning tools. A variety of techniques and materials intended for retirement preparation are studied, and students are required to participate in some pre-retirement sessions. (30-0) O

ED 290-299 Special Projects in Education

Electronic Engineering Technology Courses ♦♦♦♦♦♦♦♦♦♦

EET 101 Industrial Electricity and Electronics 3 Sem Hrs
Prerequisite: High school algebra or MTH 107. A survey of the fundamentals of electricity and electronics. (30-30) O

EET 110 Passive Circuit Analysis 5 Sem Hrs
Prerequisite: EET 131, MTH 151 or 113, PHY 112, ENG 113, CPS 140 or taken concurrently. A complete study of DC and AC circuit fundamentals, including the theory and application of direct current and alternating current concepts. Topics covered include basic circuit laws, magnetism, impedance concepts, transient analysis, two port parameters, and transformers. (60-30) FE (WD-Every other year)

EET 120 Digital Circuits 3 Sem Hrs
Prerequisite: One year of high school algebra. A study of the fundamental concepts of digital electronics. Topics include: digital number systems, Boolean algebra, combinational logic circuits, and sequential logic circuits. Programmable digital circuit concepts are introduced. Formerly EET 218. (30-30) FW

EET 131 Electrical Measurements 2 Sem Hrs
Prerequisite: MTH 107 or one year of high school algebra. Designed to develop fundamental skills in: measurement of AC/DC electrical units, bread-boarding techniques, safety, use of bench equipment, and usage of multimeters and oscilloscopes. (15-30) FW

3 Sem Hrs

Prerequisite: MTH 107 or equivalent. Provides a basic understanding of the technology and equipment in the broadcast field and an insight into the electrical/electronic functions of the equipment students may be required to operate. (45-0) O

5 Sem Hrs

Prerequisite: PHY 112 and EET 110. A study in AC and DC analysis and design of circuitry involving solid state diodes, bipolar junction transistors, field effect transistors and small-signal AC analysis models. (60-30) WE (FD-Every other year)

4 Sem Hrs

Prerequisite: EET 210. A study of linear integrated circuits theory and their applications. The study of operational amplifiers used to perform math functions in: comparators, active filters, analog/digital converters, amplifiers (current and voltage), and solutions to differential and linear simultaneous equations. The study will also include devices such as phase lock loops, voltage regulators (switching and DC), integrated circuit timers, comparators, and integrated function generators. (45-30) FE (WD Every other year)

2 Sem Hrs

Prerequisite: EET 210. Examines the use of computers in the solution of electrical circuit problems. Software packages used are MICRO-CAP II and SPICE. Both active and passive problems are presented. (15-30) O

4 Sem Hrs

Prerequisite: EET 235 or combination of EET 120 and EET 210. A study of control devices including regulating and automatic feedback systems with emphasis on the discrete components (ignitions, relays, switches, etc.) application to the control system. Additional topics covered: transient analysis of control systems, characteristics and application of transducers and usage of programmable controllers and their applications. (45-30) FW

4 Sem Hrs

Prerequisite: EET 210. A continuation of material presented in EET 210 with emphasis on power amplifiers, basic tuned amplifiers, linear integrated circuits, and power suppliers. (45-30) WE (FD Every other year)

4 Sem Hrs

Prerequisite: EET 216. Elementary principles of operation of rectifiers, amplifiers of various types, modulation, demodulation, and detection are studied. (45-30) O

3 Sem Hrs

Prerequisite: EET 120 and EET 131. This course is an intermediate course between basic logic and computers. Topics covered will be advanced mathematics of logic, improved minimization techniques, analogue to digital conversions, more complicated sequential circuits, digital communications, etc. Final subjects will be very sophisticated integrated circuits, up to and including the use of calculator chips and an insight to microprocessors. (30-30) O

3 Sem Hrs

Prerequisite: EET 120 and EET 131. An introductory study in computer electronics emphasizing the fundamentals of microprocessor programming and interfacing. Topics include: machine and assembly language programming; functional relationships between microprocessors to keyboards, LED displays, speakers, stepper motors, and analog circuits. (30-30) WE (FD Every other year)

3 Sem Hrs

Prerequisite: EET 224. An advanced study in computer electronics, emphasizing advance microprocessor interfacing and programming techniques. Interfacing applications will include: digital to analog circuits, programmable timer circuits, serial communication between computers, EPROM programming, video displays, printers, and magnetic storage devices. (30-30) O

3 Sem Hrs

Prerequisite: EET 216 concurrently and CAD 114. Basic prototype development from proposal to final report. Includes printed circuit board

artwork on PC based CAD. Students undertake several class projects as well as propose a project of their own. Students will procure parts, build test, and write final report that covers the specification, operation, and troubleshooting of the unit. (15-60) WE (FD Every other year)

4 Sem Hrs

Prerequisite: MTH 113 and PHY 101 or 111. Basic direct and alternating current circuits and their applications in machine operation and control; electrical measuring instruments. (45-30) WE (FD Every other year)

4 Sem Hrs

Prerequisite: EET 210. A study of the components of applied instrumentation including transducers, processing systems and recorders. Mechanical, electrical, hydraulic, pneumatic, acoustical, and photometric topics are covered. (45-30) O

5 Sem Hrs

Prerequisite: EET 215 and CAD 114, or permission of instructor. Builds on principles covered in EET 215 to develop skill in design of complete industrial control systems. Using ladder logic and AutoCAD, students produce computer diagrams and plots of machine control circuits with PLC's, hydraulic and pneumatic components. (45-30) O

2 Sem Hrs

An introduction to basic electricity and fundamentals of basic residential/commercial building wiring. Topics include electricians' tools and safe use of tools. O

Electronic Engineering Technology

Engineering Courses ♦♦♦♦♦

1 Sem Hr

A study of Engineering as a profession as well as a career. Surveys the various fields such as Mechanical, Electrical, Civil, etc. Compares an engineer with a technologist. Reviews work responsibilities, ethics, the work environment, challenges, salaries. (15-0) A

1 Sem Hr

A familiarization with the procedures followed and tools used by an engineer in problem solving, analysis and design. Covers engineering languages in graphics, mathematics, and computers. (15-0) A

4 Sem Hrs

A study of the graphic language applied to mechanical and civil engineering design. Develops skills in orthographic projection, multi-view drawings, isometric drafting, sectioning, auxiliary views, revolutions, developments, ANSI dimensioning, and tolerancing, annotation and descriptive geometry. Uses computer-aided drafting and analysis. Credit can be earned in EGR 165 or DRF 155 but not in both. (30-60) FW

4 Sem Hrs

Prerequisite: One year of high school mechanical drafting with final grade of C (2.0) or higher. A study of the graphic language applied to mechanical design, review of multiview and isometric drafting, and the geometry of drawing. Emphasis on developing skills in using orthographic projections, sectional views, auxiliary views and revolutions, dimensioning and annotation, and descriptive geometry. Computer-aided methods in drafting and analysis are used for all topics studied. Students cannot obtain credit for both EGR 165 and EGR 166. (30-60) FW

3 Sem Hrs

Prerequisite: PHY 215. Intended as a second course in mechanics for engineers. Covers kinematics and kinetics of particles and rigid bodies in 2D and 3D. Force/acceleration, energy and momentum methods are used. Applications to machine elements and structures in mechanical engineering. (45-0) SD FE

4 Sem Hrs

Binary number system; Boolean algebra, Karnaugh maps, basic logic gates, combinational circuits and designs, sequential circuit design

using flip-flops, counters and shift registers, digital arithmetic, memory devices and basic structures of a microprocessor. (45-30)

EGR 235 Electronic Circuits I **4 Sem Hrs**
Prerequisite: MTH 161. Resistive circuits with independent and dependent sources, operational amplifiers, RL, RC transients, R-L-C circuits-natural and forced response, sinusoidal input and forced response. (45-30)

Emergency Medical Technician Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

EMT 101 Basic Emergency Medical Technician I **6 Sem Hrs**
This course covers all the basic techniques in emergency medical care presently considered within the responsibilities of the Basic Emergency Medical Technician (EMT). Includes dispatch, emergency victim care in a variety of situations, extrication, and transportation. (30-120) FE

EMT 102 Basic Emergency Medical Technician Field Experience **1 Sem Hr**
Must be taken concurrently with EMT 101. Provides the opportunity to observe and assist with basic emergency treatment techniques in local emergency service facilities. (0-60) F

EMT 108 Rescue and Extrication **1 Sem Hr**
Designed to better prepare the Basic Emergency Medical Technician to cope with automobile rescue in the field. Included is practical experience with a long and short backboard, initial Patient Survey with a simulated, trapped patient, and hands-on experience with various rescue tools and techniques. The National Registry of Emergency Medical Technicians has awarded 10 points in classification 11 — Extrication course for registration credit. Course is approved by Michigan Department of Public Health, Licensing Division. (2-14) FN

EMT 290-299 Special Projects in Emergency Medical Technician

English Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

ENG 100 Introduction to College Reading and Writing **5 Sem Hrs**
Provides those under-prepared for academic work in the regular composition sequence (ENG 111A, 111 and 112) with an opportunity to improve their reading and writing skills in an informal workshop atmosphere. Students will practice writing with special attention given to their particular needs, which may include organization, sentence structure and variety, vocabulary building, essays, and stories will help students learn how to understand, interpret and apply their reading. (75-0) A

ENG 101 Applied English Skills **5 Sem Hrs**
Instruction and experience in the skills of reading, writing, and oral communication with emphasis on practical use. This course fulfills the college English requirements for specific technical programs. (75-0) WO

ENG 102 General Study Skills **1 Sem Hr**
Students will be provided with some basic study strategies for coping with college level work. Those presently experiencing difficulty in the different subject areas will receive individualized assistance. (15-0) O

ENG 103 Communications **2 Sem Hrs**
Students will be taught to prepare written communications with emphasis on clear and direct sentence structure and separating fact from opinion. The class will present reports and letters on subjects of interest to labor. (30-0) O

ENG 104 Applied Spelling Techniques **2 Sem Hrs**
Techniques, methods of patterning, and governance by rules to achieve correct spelling. Emphasis on individual needs as determined by testing. (30-0) A

ENG 105 English as a Second Language **5 Sem Hrs**
A course designed to aid the speaker of English as a second language

with intermediate and advanced English language skill. Study covers grammar, pronunciation, reading skills, composition, and American culture. In-class oral drills, language laboratory experience, readings in American history, and out-of-class composition will be the main activities. (75-0) FW

ENG 107 Elements of Grammar **2 Sem Hrs**
Designed to acquaint or refresh the student with useful, basic grammatical concepts through a practice-directed program. Effective sentence structure, capitalization and punctuation rules, and the importance of detail, clarity and style will be illustrated in the context of letters, memos, reports and other forms of career-oriented communication. (30-0) A

ENG 108 Effective Reading and Vocabulary Development I **4 Sem Hrs**
Designed for those who need to understand, remember, and enjoy what they read. Course will include techniques for understanding new words from reading and remembering vocabulary. Special consideration will be given to the study-reading process for college-level work. (60-0) A

ENG 109 Effective Reading and Vocabulary Development II **3 Sem Hrs**
For people who read effectively but want to improve their ability to understand the whole process more clearly. Such a study is designed to increase comprehension and reading rate when applied to a variety of printed material. (45-0) A

ENG 111 College Composition I **3 Sem Hrs**
Aims at developing fluent, effective, and confident writers. Students will practice the process of composing: generating ideas and shaping and evaluation their writing. Reading and language awareness will be used to further the development of their writing. (45-0) A

ENG 111A Writing Methods/College Composition I **5 Sem Hrs**
Combines the objective of ENG III with two additional hours of special attention to particular student problems and needs in the conventions of written composition. Two of the five credit hours may be counted toward the total hours required for graduation but not toward fulfilling the English composition requirement for any curriculum or degree. (70-0) A

ENG 112 College Composition II **3 Sem Hrs**
Prerequisite: ENG 111. Continues the development of fluent, effective, and confident writers. Students will expand their abilities and versatility in the process of composing for a range of purposes, audiences, and situations. Reading and language awareness will be further used to develop their writing. (45-0) A

ENG 113 Technical Writing **3 Sem Hrs**
Prerequisite: ENG 111 or OSE 151 or equivalent. Techniques for written presentation of technical material in formal and informal reports. The emphasis will be on general principles with specific applications in conjunction with technical courses or actual job experience. (45-0) A

ENG 114 Writing a Research Paper **1 Sem Hr**
A course for those currently working on a research paper or for those who will be writing a research paper in the future. The format will include using the library, selecting a focus for research, researching, collecting findings, assimilating ideas, planning, writing, and documenting a research paper. (15-0) O

ENG 115 Mass Media **3 Sem Hrs**
Survey of mass media; role history, current problems and criticisms of the press, radio, television, film mediums; information on what is needed to qualify for a job in journalism. (45-0) FW

ENG 116 News Writing **3 Sem Hrs**
Prerequisite: ENG 115 or permission of instructor. Fundamental principles of gathering and writing news stories; elements of news, the lead, style, and structure of news stories; new sources and types of new stories. (30-30) W

ENG 201H Honors Colloquy **3 Sem Hrs**
Prerequisite: Approval by Honors Program Director. Required of all

honors program students. Explores self as learner, interaction between the learning self and others, growth and development of the learner so as to further self-knowledge, develop a sense of community, provide intellectual growth, bring out connections between disciplines, provide a forum for exchange of ideas, and provide each student with a mentor relationship. Individual conferences with instructor and one all-day workshop are required. Credit may be earned in ENG 201H or IHU 201 but not in both. (45-0) A

ENG 206 Grammar Enrichment 2 Sem Hrs
Prerequisite: ENG 111 or 111A. Provide students whose basic sentence structure, usage, and punctuation are strong with an opportunity to practice these skills or to undertake further investigation of language form and varied styles. (30-0) WE

ENG 211 Advanced Composition 3 Sem Hrs
Prerequisite: ENG 112 or permission of instructor. Further practice in forms of academic writing such as the summary, report based upon research, and the analytical essay. Emphasizes writing process and examines the origins and purpose of academic discourse. Approaches such as workshops, conferencing, publication and word processing may be used at the discretion of the instructor. (45-0) FW

ENG 212 Advanced Composition and Tutoring 3 Sem Hrs
Prerequisite: ENG 112 or 113 and permission of instructor. Provides in-depth knowledge of the skills of exposition and advanced prose style through the writing and criticism of expository essays. Furthermore, students will be introduced to theory and practice of tutoring and will work with individuals in need of help in Delta's Teaching/Learning Center for 1 hour per week in addition to 3 hours of classroom work. (45-0) O

ENG 217 Advanced Reporting 3 Sem Hrs
Prerequisite: ENG 116. Detailed journalistic techniques and news gathering methods, handling important and specialized assignments in government, politics, crime and courts, education, science and environmental areas, editorial writing, reviewing and criticism of the arts, columns. Class members work on *The Collegiate*. (30-30) O

ENG 218 News Editing 3 Sem Hrs
Intensive training in publication style, including newspapers, magazines, the business and trade press, house organs, newsletters and specialized publications; news evaluation. Copy reading, headline writing: basic typography; journalistic responsibilities, ethics and communication laws. Class members work on *The Collegiate*. (30-30) O

ENG 219 Literary Analysis 3 Sem Hrs
Prerequisite: ENG 112. A survey of, and practice in, methods of literary interpretation and appreciation, from the close reading strategies of New Criticism to the contemporary considerations of reader-response theory. Interpretive papers on particular works of fiction, poetry and drama are required. (45-0) FW

ENG 220 Readings in Poetry 3 Sem Hrs
Prerequisite: ENG 112. The student will have the opportunity to survey the representative poetry of various cultures and periods with an emphasis on British and American poetry. The course is designed to help the student understand and enjoy one of humanity's oldest and yet continually new and exciting art forms. (45-0) O

ENG 221 Readings in the Short Story 3 Sem Hrs
Prerequisite: ENG 112. The student will read selected short stories of British, American, and other authors in addition to increasing one's understanding of this relatively modern form, the student will explore ways in which the short story is personally meaningful in depicting our perception of ourselves and the world in which we live. (45-0) FW

ENG 222 Readings in the Novel 3 Sem Hrs
Prerequisite: ENG 112. From a reading of selected novels the student will develop understanding of the novel form. The student will also learn how to derive personal meaning and satisfaction from novels chosen from different times, places, and cultures. (45-0) F

ENG 223 Readings in the Drama 3 Sem Hrs
Prerequisite: ENG 112. Through reading of selected plays - past and

present America, British and other cultures - the student will gain insight into the cultural contexts in which plays have been written and produced. The student will also discover how they represent significant expressions of humanity's response to experience and the world. (45-0) O

ENG 224 Popular Literature 3 Sem Hrs
Prerequisite: ENG 112 or permission of instructor. An examination of a particular body of popular literature, organized by the selection of material either from the works of one author or one genre (e.g. Science Fiction, Black Humor, War Novel, etc.) Course content to be announced each semester prior to registration. (45-0) FW

ENG 225 Science Fiction and Fantasy 3 Sem Hrs
Prerequisite: ENG 112. An exploration of the range and depth of science fiction and fantasy literature. Students will study major authors, themes, ideas and engage in individual projects. (45-0) O

ENG 226 Introduction to Film 3 Sem Hrs
The film as an art form and a mode of communication with special emphasis on developing standards of appreciation. Weekly screenings and discussion sessions will focus on understanding the medium's literary roots and on the creative process itself from original conception to script to sight and sound images. (45-0) FS

ENG 227 The American Motion Picture 3 Sem Hrs
Prerequisite: ENG 112. This course will provide insight into American culture through the study of popular films. Major emphasis will be on American culture as reflected in the motion picture and the effect of the visual image portrayed in motion pictures on the perception of society and its history. Selected topics may vary from semester to semester. (45-0) W

ENG 231 Modern Poetry 3 Sem Hrs
Prerequisite: ENG 112. A study of the background, the developments, and the current state of modern poetry, with emphasis on poems by American and British authors. (45-0) O

ENG 239 Science, Technology, and Literature 3 Sem Hrs
Prerequisite: ENG 112. A study of science and technology themes in literature and journalism. Topics will include (1) works and biographies of men and women who combine science and literature in their lives; (2) Literature and the Machine in American Culture; (3) Humanistic Dimensions of Current Scientific and Technological Developments Reflected in Literature and Journalism; and (4) Using College and Community Resources to Interrelate Science and the Humanities. Activities will include interviews, film analysis, discussing articles from scientific and humanistic publications, writing journals, short stories, poetry, research compositions on individual topics, making video tapes, and miniworkshops involving students, scientists, and writers. (45-0) O

ENG 240 Science, Technology, and Literature 4 Sem Hrs
Prerequisite: ENG 112. This course is the same as ENG 239, except to earn 4 credits the students will be required to do extra work under the instructor's supervision. Examples are: in-depth study of a humanist scientist - writer's work or biography; research essay on science and technology themes in literature; analysis of current articles in scientific and technological publications and their social and ethical implications. (60-0) O

ENG 241 Introduction to Mythology 3 Sem Hrs
Prerequisite: ENG 112. A study of the myths of Greece, Rome, and the Levant as they have appeared in *The Iliad*, *The Odyssey*, *The Metamorphoses*, *The Aeneid* and *The Old Testament*, with emphasis on their relationship to modern literature. (45-0) A

ENG 242 British Literature 3 Sem Hrs
Prerequisite: ENG 112. A selection of major British authors will be studied. Representative works from various periods will be read and analyzed. The student will learn to understand and critically appreciate the major ideas and literary forms of English literary history. (45-0) FW

ENG 243 Literary Geography of the Third World 4 Sem Hrs
An interdisciplinary course, seeking (through the study of native literatures) to understand and appreciate the cultures, problems and poten-

tials of Third World countries (Africa, Latin America and Asia) in their geographical settings. Credit may be earned in ENG 243 or GEO 243 but not in both. (60-0) O

ENG 245 Biblical Literature: Old Testament 3 Sem Hrs
This course will be a critical study of the literature of the Old Testament. It will treat the Old Testament Canon in its historical development, and examine both the literary styles and the changing theological and ethical ideas. (45-0) O

ENG 246 Biblical Literature: New Testament 3 Sem Hrs
A critical study of the literature of the New Testament with some attention given to the Inter-Testamental literature. The literature will be studied in terms of its historical development. Some attention will be given to the canonization of the New Testament, to the different literary styles and to the theological and ethical ideas. (45-0) O

ENG 251 Children's Literature 4 Sem Hrs
Prerequisite: ENG 112 and a speech/oral communications course. A survey of literature for children in the elementary grades, aimed at developing techniques for using books with children, story telling, and the criteria for book selection. (60-0) A

ENG 252 Young Adult Literature 3 Sem Hrs
Prerequisite: ENG 112. A survey of young adult literature with emphasis upon history and integrity as a genre. Special attention will be given to the reading tastes of adolescents, literature selection and censorship issues, and the diversity of literature categories within the genre. (45-0) W

ENG 253 Creative Writing: Poetry 3 Sem Hrs
Prerequisite: ENG 112. A course in the writing of poetry. Students are encouraged to develop their own poetry writing skills and understanding. In addition to other classroom activities, there are discussions and writing assignments. The instructor may also choose to require analysis of published poetry and criticism. (45-0) FW

ENG 254 Creative Writing: Fiction 3 Sem Hrs
Prerequisite: ENG 112. A course in the writing of fictional prose—chiefly short stories and the novel. Each student is encouraged to develop his/her own fiction writing skills and understanding. In addition to other classroom activities, there are discussions and writing assignments. The instructor may also choose to require analysis of published poetry and criticism. (45-0) F

ENG 255 Advanced Fiction Writing 3 Sem Hrs
Prerequisite: ENG 254 or permission of instructor. A continuation and development of writing abilities and interests. Students will compose short fiction and analyze each other's stories. Writing exercises and some reading of professional stories may also be included. (45-0) WO

ENG 256 Personal Writing 3 Sem Hrs
Prerequisite: ENG 112 or permission of instructor. A writing and reading course emphasizing inner exploration as a way of personal growth and expanded awareness. The central focus will be student's journal, although other avenues of personal writing such as dream logs and autobiographies and essays as aids to his/her writing and as works of literary art. (45-0) FW

ENG 268 International Studies in Literature 1-4 Sem Hrs
The student will do an in-depth study in one or more aspects of the literature or film of a country other than the United States. Includes class lectures and individual consultation. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. O

ENG 269 Native North American Literature 3 Sem Hrs
Prerequisite: ENG 112. A broad survey of the literature of North American Indians. Poems, dreams, and tales of various Indian tribes will be examined, as well as biographies and autobiographies of important Indian leaders. Some reading in secondary sources will be required to facilitate an understanding of the culture which produced the literature. (45-0) FO

ENG 271 American Literature I 3 Sem Hrs
Prerequisite: ENG 112. Major movements and themes in American

literature as they appear in the works of important authors from the Puritan period to and including the Age of Romanticism are studied. (45-0) A

ENG 272 American Literature II 3 Sem Hrs
Prerequisite: ENG 112. A continuation of English 271. Study of major movements and themes in American Literature from Walt Whitman through the Age of Realism and New Directions. (45-0) W

ENG 274 Mexican-American Literature 3 Sem Hrs
Prerequisite: ENG 112 or permission of instructor. The course will provide an introduction to Mexican-American literature, a survey of novels, short stories, plays poems, essays, and autobiographies written by contemporary Mexican-American authors. Course will also examine the Mexican -American as portrayed in American literature by such authors as John Steinbeck, Willa Cather, and Katherine Ann Porter. (45-0) O

ENG 276 Contemporary American Fiction (1945 to Present) 3 Sem Hrs
Prerequisite: ENG 112. A study of trends, techniques and themes in recent American fiction. The student will read, analyze, and criticize the works of such writers as Updike, Cheever, O'Connor, Baldwin, Ellison, Bellow, Salinger, Malamud, and Mailer. (45-0) O

ENG 277 Early African-American Literature 3 Sem Hrs
Prerequisite: ENG 112 or ENG 113 or permission of instructor. An introduction to early African-American writers, such as Wheatley, Garnet, Washington and Keckley and a survey of their works. Students will do oral projects which require reading secondary sources. Emphasis will be on poetry, narratives, letters and orations. (45-0) W

ENG 278 Modern African-American Literature 3 Sem Hrs
Prerequisite: ENG 112 or ENG 113 or permission of instructor. An introduction to modern (1865-present) African-American writers, such as Hughes, Brooks, Hurston, and Walker and their works. Students will do oral projects which require reading secondary sources. Emphasis will be on poetry, fiction, folk literature, and drama. (45-0) S

ENG 283 Literature of Mysticism 3 Sem Hrs
Designed to help students on an inner search for authenticity, personal integration, and self awareness. The course will provide a variety of possibilities for developing innate potentialities and for achieving altered states of consciousness through literature, awareness exercises, meditation, chanting, fantasy journeys, and journal writing. (45-0) FW

ENG 284 Sports in Literature 3 Sem Hrs
Prerequisite: ENG 112. To introduce students to literature and journalism on sports themes as diverse as (1) sport as ritual; (2) the effects of victory and defeat; (3) how men, women, children, and minorities are affected by sports; (4) athletics and aging; (5) amateurs and professionals; and (6) non-traditional views of sports. (45-0) O

ENG 285 Women in Literature 3 Sem Hrs
This course will discuss women's infinite variety as reflected in the literature of past and present, East and West. The first part will focus on images of the woman's private world—her relationship with others and her search for personal identity; the second part will concentrate on women's society—women's vocations, women and the arts, women and war, women and protest movements. The course will be literary rather than psychological or sociological in emphasis and will study both areas mentioned above with a literary context. The course is open to both men and women. (45-0) FW

ENG 289 The Comic View In Literature 3 Sem Hrs
This course will analyze the nature, elements and types of comedy exemplified in literature; will explore the psychological and sociological functions of comedy portrayed by American and world writers; will study the works of such writers as Geoffrey Chaucer, Jonathan Swift, Artemus Ward, James Lowell, Ambrose Bierce, Mark Twain, Oscar Wilde, Guy deMaupassant, Robert Benchley, James Thurber, Samuel Beckett, and Dorothy Parker. (45-0) O

ENG 290-299 Special Projects in English

Electronic Service Technology Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

EST 101 Electronic Service Industry 4 Sem Hrs
Survey of the electronic service and repair industry. Topics include employment considerations, electronic applications, examples of electronic systems, the future of electronics, required technical skills, technical communications, and an overview of the industry. (60-0) F

EST 133 Electronic Service I 4 Sem Hrs
Prerequisite: MTH 107 and EST 101. Provides an electronic service person the theoretical foundation to maintain the service electronic equipment. Included are basic circuit laws (Ohms Law, Watts Law, Kirchhoff's Laws, etc.). (45-15) FD

EST 135 Electronic Service II 4 Sem Hrs
Prerequisite: EST 133 with C minimum grade, or permission of instructor. Continuation of EST 133. Included are more advanced concepts of electricity and electronics, the mathematical solution of D. C. circuits, and basic circuit laws, efficiency, inductance, magnetism, meters, transformers, and basic alternating current using trigonometry. (55-20) FD

EST 137 Electronic Service III 4 Sem Hrs
Prerequisite: EST 135 with C minimum grade, or permission of instructor. Continuation of EST 135. Topics include capacitance, capacitive reactance, series A.C. circuits, and multiphase systems. (55-15) FD

EST 140 Digital Electronics I 3 Sem Hrs
Prerequisite: EST 137 with C minimum grade, or permission of instructor. Fundamental concepts of digital electronics are covered. Topics include digital number systems, basic gate functions, Boolean Algebra, combinational logic systems, flip-flops, sequential logic systems, shift register systems. Concepts will be taught based upon the operation, service and repair of these systems. (30-20) WD

EST 142 Digital Electronics II 3 Sem Hrs
Prerequisite: EST 140 with C minimum grade, or permission of instructor. Continuation of EST 140. Advanced digital systems including one-shots, mono-stables, astables, timers, digital control systems, D/A circuits, A/D circuits, digital meter systems, basic memory systems, introduction to micro-processors, concepts will be taught based upon the operation, service and repair of these systems. (30-20) WD

EST 146 Basic Microprocessor Systems 3 Sem Hrs
Prerequisite: EST 142 with C minimum grade, or permission of instructor. Basic study of electronic computer systems. Topics include machine and assemble language programming, functional relationships between microprocessors and the support circuits, the basics of interfacing to input and output devices. Concepts will be taught based upon the operation, service and repair of these systems. (30-30) WD

EST 150 Electronic Devices I 3 Sem Hrs
Prerequisite: EST 137 with C minimum grade, or permission of instructor. Topics include fundamentals of passive devices, including diodes, zener diodes, power supply circuits, passive regulator systems clipper and clamper circuits, and bipolar junction transistors. Introduction to transistor amplification, its operation, service and repair. (30-30) SD

EST 152 Electronic Devices II 3 Sem Hrs
Prerequisite: EST 150 with C minimum grade, or permission of instructor. Continuation of EST 150. Fundamental concepts of field effect transistors, insulated gate field effect transistors, metal oxide semiconductor field effect transistors, silicon controlled rectifiers, bidirectional triode, unijunction transistor, programmed unijunction transistor. Light sensitive devices, such as photo conductive cells, photo diodes, photo transistors, light-emitting diodes, and liquid crystal displays. (30-30) SD

EST 156 Basic Electronic Systems 3 Sem Hrs
Prerequisite: EST 152 with C minimum grade, or permission of instructor. Continuation of EST 152. Topics will include fundamental concepts of operational amplifiers, voltage and current regulator circuits, oscillators, and waveshaping circuits. Basic transmitting, receiving and antenna systems will also be discussed. Concepts will be based upon operation, service and repair of these systems. (30-30) SD

EST 160 Practical Electronic Servicing 4 Sem Hrs
Prerequisite: EST 156. Covers basic A.M. and F.M. radio receiver service procedures, including alignment and troubleshooting. The student will use a variety of test equipment including signal generators and oscilloscopes. (45-15)

Fashion Merchandising Courses ♦♦♦♦ ♦♦♦♦

FM 110 Apparel Construction and Analysis 4 Sem Hrs
Analysis and application of professional procedures in appraising and constructing a garment; use of a pattern; proper fabric selections; pattern layout, marking, cutting, construction, and professional finishes; advanced construction methods in collar applications; sleeve construction and lining techniques. (60-0) F

FM 120 Apparel Tailoring 4 Sem Hrs
Prerequisite: FM 110 or permission of instructor. Basic clothing construction skills necessary. Areas covered include proper figure measurement and analysis, correct pattern and fabric selection for a coat or suit, pattern alteration techniques, fabric preparations, use of a test muslin, special innergarment construction techniques, construction of lapel collars, set-in sleeves, linings, and special methods of attaching fasteners to garments to achieve professional-looking apparel. (60-0) F

FM 130 Professional Image Development 1 Sem Hr
Designed to aid the career-minded person in achieving greater self-confidence by maximizing social and physical personality characteristics. The student will study wardrobe planning and care; personality development as it relates to business relationships, body language and poise, care and grooming of skin and hair. (15-0) O

FM 150 History and Dynamics of Fashion 3 Sem Hrs
An introductory course to the clothing fashion industry. A study of the impact and interrelationships of costume and culture of western civilization from ancient times to the present. Emphasis will be placed on historic designer. The components of fashion, which include line, form, color, texture and silhouette, as well as construction details, will be explored. (45-0) F

FM 151 Display 3 Sem Hrs
Prerequisite: ART 115 and FM 170 or ID 100, or permission of instructor. Display, as a major component of sales promotion, is fully explored in this course. Color and basic design principles will be studied in terms of their application to display. Analysis of the function, types and tools of display will be included. Students will design and coordinate window and interior displays. The steps in planning and coordination sales promotions will be covered. Emphasis will be placed on learning how to plan, produce, and evaluate effective displays. (45-0) FD WE

FM 155 Textiles 3 Sem Hrs
A study of natural and man-made fibers, their properties and unique characteristics. Identification of fabrics used in wearing apparel and interior decoration; fabric production, performance and use; final processes and finishes; the study of weaves, pattern and color. (45-0) F

FM 170 Fundamental Theories of Fashion Design and Merchandising 3 Sem Hrs
A study of fashion merchandising, with emphasis on contemporary designers. A study of primary, secondary, and consumer markets is explored. Includes the relationship of sizes; figure types and styling; fashion pricing and market comparisons; and the forces influencing fashion. (45-0) W

FM 210 Apparel Pattern Drafting and Design 4 Sem Hrs
Prerequisite: FM 110 or equivalent. Basic principles of pattern drafting; pattern alterations through the flat pattern and pivot methods; elements of a proper garment fit utilizing test muslins; trade information of figure types, sizing, and pattern terminology. The basic sloper will be used in designing and drafting hip length slopers, collars, sleeves, bodices, and skirts. (60-0) W

FM 220 Advanced Apparel Tailoring 4 Sem Hrs
Prerequisite: FM 120 with a minimum grade of C (2.0). Includes

couturier design and construction techniques, constructing a garment from a designer pattern choice utilizing couture structural and decorative details. (60-0) W

FM 230 Applied Apparel Design 3 Sem Hrs
Prerequisite: FM 110 or equivalent. This course will cover art techniques suitable for apparel design, including fabric dyeing, quilting, stitchery, applique, and macrame. Apparel will be designed and constructed incorporating the above techniques. (30-30) W

FM 240 Fashion Coordination 3 Sem Hrs
Prerequisite: FM 170. Fashion coordination responsibilities in the primary, secondary, auxiliary, and retail apparel markets will be explored in this course. Areas that will be covered include sources of fashion information, how it is analyzed, and major fashion accessory to apparel. Practical experience in preparing and giving several types of fashion presentations to live audiences is of major importance. (45-0) W

FM 245 Advanced Textiles 3 Sem Hrs
Prerequisite: FM 155. An in-depth study of man-made fibers, including flooring materials and other types of floor coverings, giving special consideration to recent developments, new construction techniques and finishes, and measurement and the opportunity for individual investigation and research. (45-0) O

FM 250 Seminar in Clothing Fashion 2 Sem Hrs
Prerequisite: Permission of the instructor. This course is primarily designed for majors in the fashion curriculum. Students will study the New York fashion market through visits to apparel manufacturers, apparel designers, buyers' showrooms, resident buying offices, advertising agencies, retail ready-to-wear and boutiques, pattern companies, costume museums and other places of interest. Normally the class will spend one week in New York at the beginning of spring semester. Students pay tuition plus all their expenses. (30-0) S

FM 251 Apparel Center Experience 1 Sem Hr
Prerequisite: Permission of the instructor. Primarily for majors in the Fashion curriculum. Students will study the Chicago apparel industry through visits to apparel manufacturers, buyers' showrooms, resident buying office, area designers, retail ready-to-wear and boutiques, costume museums and other places of interest. Normally, the class will spend 3 days in the market. Students pay tuition plus all their expenses. (0-15) F

FM 260 Drapery Specialist I 3 Sem Hrs
Prerequisite: FM 110 or permission of the instructor. A beginning course designed to provide basic information and construction skills in simple window treatments. Fabrics, fabric preparation, drapery notions, heading, drapery hardware and accurate measuring techniques will be covered. Lined, unlined, and sheer drapes will be included. (30-30) O

FM 261 Drapery Specialist II 3 Sem Hrs
Prerequisite: FM 250 or permission of the instructor. Designed to provide information and construction skills in advanced window treatments, such as pleats, valances, Accordia and Ripple fold draperies, and cafe curtains. Complete construction and installation are important aspects of this course (30-30) O

FM 262 Drapery Specialist III 3 Sem Hrs
Prerequisite: FM 251 or permission of the instructor. Advanced window treatments, including swags, jobots, fabric shades, lambrequins, and priscillas will be constructed. Students will be taught to select and install appropriate drapery hardware. In addition, canopies, spreads, and contoured tiebacks will be studied. (30-30) O

FM 290-299 Special Projects in Fashion Merchandising

French Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

FR 105 Conversational French—Introduction 2 Sem Hrs
Designed to emphasize the acquisition of oral skills. Successful completion of FR105 and FR106 is considered equivalent to the successful completion of French One. (30-0) O

FR 106 Conversational French—Continuation 2 Sem Hrs
Prerequisite: FR 105 or equivalent. A continuation of FR 105 with more emphasis on reading and writing French. Successful completion of FR 105 and 106 is considered equivalent to the successful completion of French One. (30-0) O

FR 111 French One 4 Sem Hrs
A beginning course presenting the basic structure of the French language with drills for correct pronunciation and grammar usage. Emphasis is placed on understanding and using spoken as well as written French. Supplemental work with cassette tapes is expected. (60-0) FW

FR 112 French Two 4 Sem Hrs
Prerequisite: FR 111 or one year of high school French. A continuation of FR 111 with further development of oral and written skills. (60-0) FW

FR 211 French Three 4 Sem Hrs
Prerequisite: FR 112 or two years of high school French. Continued application of principles of French grammar by means of conversation and composition practice. Classes conducted as much as possible in French. (60-0) O

FR 212 French Four 4 Sem Hrs
Prerequisite: FR 211 or three years of high school French. A continuation of FR 211, with further development of oral and written skills. (60-0) O

FR 290-299 Special Projects in French

Fire Science Technology Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

FST 101 Introduction to the Fire Service 3 Sem Hrs
The student will analyze national fire problems, examine fire prevention procedures, identify fire fighters equipment, interpret fire codes and standards, recognize transportation hazards, study wild-fire methods, work with outside fire agencies, identify citizen responsibility, and study future fire problems. (45-0) FE

FST 102 Fireground Tactics 3 Sem Hrs
Prerequisite: FST 101 or FST 112. Analysis of basic rules of fire fighting strategy, defining engine company responsibilities, determining ladder company functions, correlating MUTUAL AID fires, and general fire problems will be included. (45-0) FE

FST 103 Building Construction 3 Sem Hrs
Provides a comprehensive look at the methods and practices employed in residential construction as it pertains to fire science. Structural design, blueprints, building materials, and mechanical considerations are covered. (45-0) WE

FST 104 Arson Awareness 3 Sem Hrs
A comprehensive study of national, state and local arson problems. Examines the local fire department role in reducing arson related fire losses. Examines the duties of and assistance provided by governmental agencies and the private sector. Analyzes local fire statistics to enable the development of an arson data system. Develops effective arson mitigation strategies. (45-0) WE

FST 105 Hazardous Materials/Emergency Responder 3 Sem Hrs
A comprehensive study of the physical, chemical, and toxicological characteristics of hazardous materials needed to safely and productively address emergency situations that can occur with these substances. (45-0) FE

FST 107 Fire Protection Systems I 3 Sem Hrs
A comprehensive study of fire protection systems in buildings. Include design, blueprints, inspection and maintenance of automatic sprinkler systems, standpipe systems, special automatic extinguishing systems, smoke control systems, automatic and manual fire alarm systems, rated fire assemblies and other protection found in structures that help retard the propagation of fire. (45-0) O FE

FST 111 Fire Fighter I-A 4 Sem Hrs
Based on the National Fire Academy curriculum, and adopted by the Michigan Fire Fighters Training Council. Prepares a participant for testing for Fire Fighter I certification, and is a prerequisite to becoming a fire fighter in this state. Skill in the use of standard equipment is demonstrated in the classroom and developed in the field. (66-0) O

FST 112 Fire Fighter I-B 4 Sem Hrs
Prerequisite: FST 111. Based on the National Fire Academy curriculum, and adopted by the Michigan Fire Fighters Training Council. Prepares a participant for testing for Fire Fighter I certification. Skill development is concentrated on extinguishers, arson detection, inspection, utilities, hazardous materials, among others. (66-0) O

FST 201 Supervision & Leadership 3 Sem Hrs
Prerequisite: FST 102 or FST 112. An overview of management and leadership and the particular problems imposed by the fire service. Modern management techniques and communications, both written and oral, will be stressed. (45-0) FE

FST 202 Company Management 3 Sem Hrs
Prerequisite: FST 102 or FST 112. A comprehensive study of managing a fire company. Based on an understanding of principles of organization, organizational structures, communications, and group dynamics. Includes planning, organizing, implementing, evaluating, goal-setting, problem solving, and career counseling. (45-0) WE

FST 203 Fireground Management 3 Sem Hrs
Prerequisite: FST 102 or FST 112. A comprehensive study of the roles of the fireground commander including positioning the command post, equipment, and personnel on the scene, strategies for staging and sectoring operations along with command procedures and maintaining communications on the fireground. (45-0) WE (Every other year)

FST 204 Fire Service Instructional Methodology 3 Sem Hrs
The student will have an opportunity to learn how to effectively organize and teach a lesson or course following the criteria in NFPA's Fire Service Instructional Professional Qualifications Level I (1976). (45-0) SE (Every other year)

FST 205 Hazardous Materials/Emergency Operations 3 Sem Hrs
Prerequisite: FST 105. A comprehensive study of chemical transportation containers, emergency response equipment, and emergency response procedures needed to safely and productively address emergency situations that can occur with hazardous materials. (45-0) O

FST 207 Fire Protection Systems II 3 Sem Hrs
Prerequisite: FST 107. A comprehensive study of fire protection system in buildings. Includes design standards, conducting plan review, inspection, testing and maintenance of fire alarms, automatic detection devices, manual devices, automatic sprinklers, foam-water, water spray, standpipe, water supply and automatic chemical agent systems. (45-0)

FST 211 Fire Fighter II-C 4 Sem Hrs
Prerequisite: FST 112. Based on the National Fire Academy curriculum, and adopted by the Michigan Fire Fighters Training Council. Prepares a participant for testing for Fire Fighter II certification. Advanced skills are developed in the use of standard equipment such as breathing apparatus, ladders, hoses, and in salvage, forcible entry, and others. (66-0) O

FST 212 Fire Fighter II-D 4 Sem Hrs
Prerequisite: FST 211. Based on the National Fire Academy curriculum, and adopted by the Michigan Fire Fighters Training Council. Prepares a participant for testing for Fire Fighter II certification. Advanced skills are developed in ventilation, rescue, building construction, aircraft fires, hazardous materials, and others. (66-0) O

FST 224 Fire Investigation 3 Sem Hrs
An in-depth basic course which defines successful methods for conducting fire investigations. Specific topics include basic chemistry of fire, point of origin and fire cause, both accidental and incendiary, motivation of the firesetter, fire scene investigation, evidence collection, photography, follow-up investigation and court presentation. (45-0) WE

FST 230 Fire Safety Education 3 Sem Hrs
A comprehensive study of national state and local fire safety education program strategies. Implementation of the five step planning process at

the local level. Development of skills necessary to organize, plan and use sound management of financial, material, and human resources to reach designated goals and objectives, to address the demonstrated fire safety education needs of the local community. (45-0) SE (Every other year)

FST 231 Fire Service Law 3 Sem Hrs
Basic introduction to the legal considerations that can affect the professional lives of members of the fire service, fire service-related occupations, and those who aspire to careers in the fire service. (45-0) SE (Every other year)

FST 290-299 Special Projects in Fire Science Technology

Graphics Arts Technology Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

GAT 100 Introduction to Graphic Arts 4 Sem Hrs
Prerequisite: MTH 100 and DRF 101, or concurrently. A course designed to familiarize people with the field of Graphic Arts. Course work includes a general overview of the methods and technology used in offset printing today. Field trips included. (60-0) FE WE

GAT 110 Preproduction Graphic and Film Assembly I 5 Sem Hrs
Prerequisite: GAT 100 and either MTH 100 or higher, or score of 40 or higher on numerical skills part of assessment test. Introduction to process camera and darkroom procedures for line and half-tone photography. (50-40)

GAT 112 Preproduction Graphic and Film Assembly II 6 Sem Hrs
Prerequisite: GAT 110. A continuation of GAT 110. Emphasis placed on 4/color image assembly, in-depth stripping and proofing techniques, ability to read and understand production keylines and various methods of quality control procedures. (60-45)

GAT 222 Desktop Publishing for GAT I 3 Sem Hrs
Prerequisite: GAT 110, OSE 170, GAT 112 concurrently. The student advances from creating pages conventionally on a light table into computer-generated page make-up. Course begins with Macintosh basics, concentrates on building skills using Aldus PageMaker, and ends with an introduction to Quark Express software. (45-0)

GAT 224 Desktop Publishing for GAT II 3 Sem Hrs
Prerequisite: GAT 222 or permission of instructor. Students advance from creating computer-generated pages in Pagemaker to QuarkXPress. Introduction to the major differences between the two, the highlights of QuarkXPress, and how it relates to the printing industry today. Continues to build high-level skills using QuarkXPress' QuarkEd training guides. Stress on "getting your disks right for the printer." (45-0) SE

General Business Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

GB 103 Basic Finance & Money Management 3 Sem Hrs
The basics of budgeting, money management, credit and buying, the intricacies of owning property, income tax, investments, insurance, wills and trusts. (45-0) O

GB 110 Business Mathematics 3 Sem Hrs
Prerequisite: MTH 100 if mathematics placement test score unsatisfactory. Covers principles necessary for an understanding of math of the business world. Includes various methods of computing interest and bank discounts; installment buying; F.I.C.A. Federal Income Taxes and other payroll deductions; markup, cost and selling prices; various wage payment systems; sales and property taxes; insurance; measures of central tendency; and an introduction to the metric system. (45-0) A

GB 120 Introduction to Fast Food/Family Dining Management 3 Sem Hrs
Overview of the fast food industry; past, present, and future. Compares and contrasts various fast food restaurant concepts using case histories of successful and unsuccessful companies in the industry. Includes the organization and impact of franchise and independent fast food restaurant; types of jobs and career opportunities; food purchasing, receiving, handling, and storage. (45-0) O

GB 121 Management of Fast Food/Family Dining Establishments 3 Sem Hrs

Prerequisite: GB 110 and GB 120. Includes types and uses of common financial records; personnel planning and scheduling; marketing, promotion, and advertising; training and supervising specifically related to the fast food/family dining industry, evaluating employees; safety and health labor laws; wage and fringe benefit compensation; management of human resources; working with co-workers. (45-0) O

GB 131 Small Business Management I 3 Sem Hrs

Overview of small business, what is necessary to start a small business, including: small business in free enterprise, the entrepreneur, opportunities and trends, business plan, legal aspects, location, financing, organizational planning and marketing. Helpful to those who are currently operating a small business. Case studies will be used throughout the course. (45-0) A

GB 132 Small Business Management II 3 Sem Hrs

Strengthens the entrepreneurial and management skills of those who are already in (or who may enter) business for themselves. Small business case studies are used extensively. (45-0) W

GB 143 Principles of Advertising 3 Sem Hrs

Provides a broad view of advertising from the marketing and consumer point of view. Historical background, economic and social aspects, roles of advertising, advertising stages, target marketing, media, using selected behavioral science information in advertising, and obtaining proper advertising appeal are included. (45-0) A

GB 145 Principles of Sales 3 Sem Hrs

Emphasizes the marketing concept and the importance of personal selling for those engaged in the marketing of products, services or ideas. Includes an analysis of the steps in a sales proposal. Classroom presentations by students required. (45-0) A

GB 153 Introduction to Business 3 Sem Hrs

Clarifies the role of business in modern society both domestic and international. Includes an overview of the American business environment, forms of business ownership, obtaining and managing financial resources, management of organizations and human resources, and current issues in the free enterprise system. (45-0) A

GB 155 Current Business Issues I 1 Sem Hr

Pursues the current happenings in business by analyzing the impact of current issues on business. Students will be expected to read and utilize current business periodicals. (15-0) O

GB 156 Current Business Issues II 1 Sem Hr

Pursues the current happenings in business by analyzing the impact of current issues on business. Students will be expected to read and utilize current business periodicals. (15-0) O

GB 158 Public Relations 3 Sem Hrs

Covers the basic principles of the role of public relations in society, public relations principles and their application, procedures for planning and implementing public relations campaigns, plus the identification of "publics" and the strategies for influencing them. (45-0) O

GB 170 Intro to Savings Association Business and Operations 3 Sem Hrs

Introduction to the role of savings associations in the business world tracing historical development to present day organization and trends for the future. The major operating areas and activities performed in savings associations are studies including branch operations, marketing techniques, and human resource responsibilities. Regulations affecting savings associations will be covered. (Retains content of I.F.E. 060 & 062) (45-0) O

GB 172 Residential Mortgage Lending 2 Sem Hrs

Covers the functions of the mortgage loan department, the loan evaluation process, appraisals, closing and servicing loans, as well as collection and foreclosure procedures. Government loan programs and the secondary mortgage market will be studied. (Expands on IFE 011) (30-0) O

GB 173 Residential Appraising 2 Sem Hrs

Designed primarily for lending personnel in financial institutions, as well as for appraisers seeking professional designation. Students will be introduced to principles of single family appraising, and by applied examples understand: (1) nature, purpose and approaches to appraising, (2) methods of neighborhood and site analysis. (30-0) O

GB 174 Real Estate for Financial Associations 3 Sem Hrs

Factors influencing management decisions, requirements of valid real estate contracts, market and cost approaches to valuing real estate and mortgage lending will be covered. Government actions, business conditions, and economic trends influence decisions on property management and will be studied. (Retains the content of I.F.E. 015 and 016) (45-0) O

GB 177 Deposit Account and Services Management 3 Sem Hrs

Deposit accounts including regular savings, certificates, IRA's and access accounts will be studied in addition to new services, allowed in a deregulated market such as credit, trust and brokerage services. The laws and regulations that pertain to savings associations including FSLIC and SEC restrictions and requirements will be studied. (45-0) O

GB 181 Family Law 3 Sem Hrs

A study of the marriage relationship, divorce, separation agreements, name changes, as well as laws governing custody, legitimacy, adoption, guardianship and support of the children. (45-0) O

GB 182 Probate Law 3 Sem Hrs

A study of trusts and estates, probate administration, life insurance and estate planning, with specific emphasis on wills. (45-0) O

GB 183 Real Estate Law 3 Sem Hrs

A study of the common types of real estate transactions and conveyances, such as deeds, contracts, leases and deeds of trusts. Drafting problems, special research projects, and an analysis of the system of recording and search of public documents will also be included. (45-0) O

GB 203 Business Ethics 3 Sem Hrs

A study of basic ethical concepts such as dignity, privacy, manipulation and rights and serves as a foundation for analysis of ethical conflict situations arising specifically in a business environment. Designed to reinforce the ability to make cogent, well-reasoned decisions in the context of ethical dilemmas surrounding such topics as advertising, consumer rights, employee motivation, loyalty, whistle blowing, and the environment. Credit may be earned in GB 203 or PHL 203 but not in both. (45-0) O

GB 204 American Business History 2 Sem Hrs

Covers the period from early colonial to modern times. Emphasis will be placed upon the religious, social, political and economic forces that have shaped the unique character of American business. Major focus will be upon late nineteenth century and modern times with emphasis on industrial growth, business consolidation, the anti-trust movement and the effects of the Depression and New Deal on business. This course may also be taken as HIS 204. Students receiving credit in this course cannot receive credit for GB 205, HIS 204 or 205. (30-0) W

GB 205 American Business History 3 Sem Hrs

Covers the period from early colonial to modern times. Emphasis will be placed upon the religious, social, political, and economic forces that have shaped the unique character of American business. Major focus will be upon late nineteenth century and modern times with emphasis on industrial growth, business consolidation, and anti-trust movement, and the effects of the Depression and New Deal on business. The students will be required to complete a major paper or project. This course may also be taken as HIS 205. Students receiving credit in this course cannot receive credit for GB 204, HIS 204 or 205. (45-0) W

GB 212 Food Service Sanitation 3 Sem Hrs

Designed for food service managers, supervisors, owners and those aspiring to management jobs in the industry. A study of food service sanitation, state public health and food service regulations and training of food service personnel. This course is a prerequisite for those wishing

to be certified by the State of Michigan Department of Public Health and NIFI (National Institute of the Food Service Industries) as a food service manager. (45-0) O

GB 231 Industrial Relations 3 Sem Hrs
Prerequisite: GB 153, or MFG 111 and IS 110, or permission of instructor. Provides a study of the human factor in industry. Problems of wages, hours, unemployment, working conditions; federal and state laws which relate to labor and management relations; policies and practices of unions and management. (45-0) O

GB 232 Case Studies in Labor Relations 3 Sem Hrs
Prerequisite: GB 231 or permission of instructor. Application of principles of industrial relations to collective bargaining case studies. Actual cases are discussed and evaluated in reference to current labor laws and personnel practices. (45-0) O

GB 243 Principles of Marketing 3 Sem Hrs
Prerequisite: GB 153. Provides an understanding and interpretation of the marketing system and its importance in the economy and the place of the marketing function in business management. The marketing framework is established and a basic understanding of the psychological, environmental and managerial functions and processes that are employed in contemporary marketing are presented. (45-0) A

GB 245 Principles of Management 3 Sem Hrs
Prerequisite: GB 153 or permission of instructor. Theories of management practices will be discussed and fundamentals of administrative, executive, and staff management explained. Emphasis is placed on discussion of the management functions of planning, organizing, directing, controlling, as well as preparation of information required for decision making. The analysis of management problems and the synthesis of solutions will be covered. (45-0) A

GB 246 Supervision 3 Sem Hrs
A review of the main management concepts, and a discussion of what a supervisor is and does. Emphasis placed on what makes an effective, efficient supervisor; techniques used by supervisors in problem solving will also be discussed. Leadership, time management, hiring, evaluation, discipline, and health and safety will be presented. Role plays will be utilized. (45-0) O

GB 247 Principles of Retailing 3 Sem Hrs
Prerequisite: GB 153 or permission of instructor. Store location, organization structure, and retail personnel management are discussed in detail. Merchandising policies and budgets, and buying and pricing merchandise are presented. Retail advertising, personal selling, customer services, and loss prevention are also presented in some detail. The scope of the retailing industry, requirement of retail management as well as careers in retailing are discussed in the course. (45-0) FW

GB 248 Principles of Buying for Resale 3 Sem Hrs
Prerequisite: GB 247 or permission of instructor. The buying function in retailing and wholesaling will be explored in depth. The principles of foreign and domestic vendor location and the legality and ethics in the buyer-vendor relationship are covered. The factors determining merchandise selection, including consumer analysis, building model stocks, and estimating sales potential will be studied. Merchandising expense control factors, manual and computer inventory control systems, as they relate to buying, will be studied. (45-0) EO

GB 251 Business Law I 3 Sem Hrs
This course provides a comprehensive study of both state and federal court systems, and the relationships of the participants in a lawsuit, including judges, juries, litigants, witnesses and attorneys. Particular areas of business law that are studied in the context noted above include tort law, contract law, agency law, and the law of personal property and bailments. (45-0) A

GB 252 Business Law II 3 Sem Hrs
Prerequisite: GB 251 or permission of instructor. This course provides a continued study of court systems, with emphasis in specialized areas of business law including sales law, commercial paper law, secured

transactions and bankruptcy law, real property law and corporation law. The Uniform Commercial Code and recent consumer protection legislation are stressed. (45-0) A

GB 253 Applied Marketing Strategies 3 Sem Hrs
Prerequisite: GB 243 or permission of instructor. Students make strategic marketing decisions, using cases from manufacturing, service and retail industries. Topics include: situation analysis, segmentation, positioning, market research and information systems, international marketing, and product, price, distribution and promotion strategies. Students will be introduced to the development and implementation of the marketing plan and budget. (45-0) WE

GB 256 Human Resources Management I 3 Sem Hrs
Prerequisite: GB 153 or permission of instructor. Development of human resources management; the environment in which human resources management must operate; contemporary legal guidelines; human resource planning and recruitment; developing effectiveness in human resources through training, development, and appraisal; and creating a productive work environment through motivation, communication, leading and directing. (45-0) A

GB 257 Human Resources Management II 3 Sem Hrs
Prerequisite: GB 256 or permission of instructor. The fostering of employee-management relationships; dynamics of labor relations; collective bargaining; disciplinary action; compensation management; incentive compensation; employee benefits; safety and health; auditing the Human Resources Management program; and international Human Resources Management will be covered. (45-0) O

GB 260 Human Relations in Management 3 Sem Hrs
Prerequisite: GB 256 or permission of instructor. Covers personnel problems that managers and supervisors are likely to encounter on a frequent basis; a logical approach to solving personnel problems; motivational methods, leadership techniques; concepts of organization and organizational climate; factors affecting employee morale; dynamics of change; effective utilization of under-represented groups of employees; problems of alcohol and drug usage and changing nature of work and workers. (45-0) O

GB 265 International Business 3 Sem Hrs
Prerequisite: GB 153 or permission of instructor. An examination of the three environments within which the typical business person must function in a global economy: domestic, foreign and international. The international organizations (i.e., GATT, IMF, OPEC, EC and the UN) and the international monetary system will be covered. Physical, sociocultural, political, legal, labor and financial forces in global markets will be analyzed. Case studies will be used to emphasize management decision making in marketing, production, financing and staffing in world-wide companies. (45-0) W

GB 268 International Studies in Business 4 Sem Hrs
An analysis of foreign business including its: service industries; approaches to marketing and advertising; facilities for mass transportation; impacts of trading unions such as the European Economic Community and other elements of foreign and international trade. Includes field study, classroom lectures, and individual consultation with the faculty sponsor. Expenses for field study must be paid by the student. By prior arrangement with appropriate faculty, students may also take International Studies in the following disciplines: GEO 268, ECN 268, SOC 268. (60-0) O

GB 274 Computer Aided Decisions 2 Sem Hrs
Prerequisite: CIS 133 and GB 243 or GB 245. An interactive business simulation class using the IBM or compatible microcomputer will allow the student to practice the strategic decision making process in management/marketing. Students will explore the use of microcomputer application software in the area of decision support. Topics will include modeling, simulation, query languages, spreadsheets, and expert systems. Strategic decision situations will be presented to illustrate formulation, solution, and analysis techniques utilized for unstructured decision making in the business environment. (30-0) O

GB 290-299 Projects in General Business

German Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

GE 104 Speaking German 2 Sem Hrs
The student will learn a number of simple, everyday expressions in German. Intensive practice of comments-inquiries-responses about name, age, nationality, family, work, etc. Expressions useful in hotels, restaurants, stores, transport systems as well as in meeting people, will be included. The basics of the German writing system will be introduced. (30-0) O

GE 111 German One 4 Sem Hrs
Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written German by means of oral practice, reading of simple texts, and written exercises. (60-0) FW

GE 112 German Two 4 Sem Hrs
Prerequisite: GE 111 or one year of high school German. A continuation of GE 111. (60-0) O

GE 211 German Three 4 Sem Hrs
Prerequisite: GE 112 or two years of high school German. Continued emphasis is placed on proper pronunciation habits and on application of basic grammatical structures of modern spoken and written German by means of oral exercises, conversations, reading of German prose, and written exercises. As much as possible, this class is conducted in German. (60-0) O

GE 212 German Four 4 Sem Hrs
Prerequisite: GE 211 or equivalent. A continuation of GE 211 with emphasis on conversation and composition. (60-0) O

GE 290-299 Special Projects in German

Geography Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

GEO 100 Maps and Orienteering 2 Sem Hrs
One portion of the course will be devoted to different kinds of maps and their interpretation. Topics include: map use, scale, symbols, measuring of distance, profiles and gradients. Use of topographic and aerial photomaps will be included. The other portion of the course will be the activity of orienteering, which affords the student the opportunity for recreation and mental awareness with a map and compass in an outdoor setting. Requirements to navigate the course by using a survey map will be based on individual abilities and experience. About one-half of the class hours will be spent outdoors. Students will be required to provide an orienteering compass. (15-30) O

GEO 105 Human Geography 4 Sem Hrs
Study focuses on the aspect of geography concerned with "man's" utilization of an impact upon the natural environment. Included are population distribution and growth, settlement forms, utilization and conservation of natural resources, the impact of technology on human occupancy of the earth, man's role in modifying the earth's surface and the origin and spread of cultural elements. (60-0) O

GEO 111 Physical Geography 4 Sem Hrs
Study of the natural environment which is important to people and their activities; introduction to maps and physical features; earth-sun-moon relationships; earth materials, land forms; drainage; and major natural resources. Introduction to weather and climate, soils and vegetation — their character, causes, significance and distribution. (45-30) A

GEO 113 World Cultural Geography 4 Sem Hrs
Essential geographic characteristics and concepts of selected cultural regions of the world. These regions will be compared and contrasted in terms of their present and potential development. Examples will be selected from both the western and non-western world. (60-0) FW

GEO 125 Weather and Climate of the Great Lakes Region 2 Sem Hrs
Focuses on the impact of the Great Lakes on Michigan's weather and climate. Topics will include: Basic atmospheric controls of Michigan's

weather, collection of basic weather data, construction and interpretation of weather maps, and storms on the Great Lakes. The impact of Michigan's weather on our agriculture, tourism, and other industries, as well as Michigan air quality, will be included. Can be taken for science or social science credit. (30-0) O

GEO 150 Natural Regions of the United States and Canada 3 Sem Hrs
Study focuses on an examination of the face of our land. Each region is analyzed in terms of the initial and sequential earth processes that have forged its structure as well as the climatic, vegetation, and soil patterns that give character to its landscape. Includes natural resources and environmental problems characteristic of each region. Many national parks and monuments will be examined. Topographic maps and air photographs will be used as tools for landscape analysis. (45-0) O

GEO 211 Economic Geography 4 Sem Hrs
A survey of locational economic patterns and their interrelationships. Included are: energy production, manufacturing, transportation, etc. Special emphasis will be placed upon the study of social and spatial variation in urban-rural land use problems and analysis related to above, particularly those in the local and state area. (60-0) O

GEO 222 Geography of Asia 3 Sem Hrs
Regional geographic interpretation of the area as a continent. Study of relationships of physical, economic, social and political environment activity. (45-0) O

GEO 223 Geography of Europe 3 Sem Hrs
Similar to Geography 222 but applied to Europe. (45-0) O

GEO 226 Geography of United States and Canada 3 Sem Hrs
Similar to Geography 222 but applied to the United States and Canada. (45-0) O

GEO 243 Literary Geography of the Third World 4 Sem Hrs
An interdisciplinary course, seeking through the study of native literatures to understand and appreciate the cultures, problems and potentials of Third World countries (Africa, Latin American and Asia) in their geographical settings. Credit may be earned in GEO 243 or ENG 243 but not in both. (60-0) O

GEO 245 Geography of Michigan 2 Sem Hrs
A regional geographic interpretation of Michigan as a setting for economic activity within the state. Study focuses on the geographic relationships between the environment, and the cultural and economic activities within Michigan. (30-0) O

GEO 255 Third World Development 4 Sem Hrs
An interdisciplinary description and analysis of processes and conditions which created and maintain the "Third World." Population, physical environment, historical, political, social and economic factors will be addressed. Current concepts and development theories will be explored and applied. Credit may be earned in GEO 265 or SOC 265 but not in both. (60-0) O

GEOGRAPHY COURSES 260-269

These courses usually involve classroom work on the Delta campus followed by a field trip ranging in length from three days to several weeks. Prior to registration, students must make field trip financial arrangements with the instructor.

GEO 260 Geography of the Pacific Islands 3 Sem Hrs
Prerequisite: Permission of instructor. A regional geographic interpretation of the Pacific Islands emphasizing their physical, environmental and cultural patterns, and their economic development. Study will focus on three subregions: Polynesia, Melanesia and Micronesia. Field work in the Pacific Islands will be required. Students must pay own expenses. (45-0) S

GEO 261 Geography of Caves & Karst Topography 1 Sem Hr
Study focuses on the role of solution in forming caves and in landscape formation (karst topography). Formation of stalactites, stalagmites, flowstones and other crystal formations are also studied. Students are

GEO 262 The Geography of the Canadian Shield 1 Sem Hr
Focuses on the interrelationships between humans and the physical environment of this, the largest of the landform provinces of Canada. Major topics include the physical environment, natural resources, recreation, and settlement patterns. Required classroom work, travel and field research will help the students to develop their understanding of this wilderness area. Student must pay own expenses for field trip. (15-0) FS

GEO 263 The Geography of Appalachia 1 Sem Hr
Focuses on the economic, social and environmental impact of coal mining on the region of Appalachia. Topics include: shaft, strip and drift mining, reclamation of strip mined lands, the relationship between mine workers and the people of Appalachia, and preservation of threatened natural areas. A weekend field trip is required. Students must pay own expenses. (15-0) O

GEO 264 The Geography of the Western United States and Canada 1 Sem Hr
Focuses on the physical, cultural, and historical geography of those regions west of the 100th meridian of longitude in the United States and Canada. Regions to be covered include the Great Plains, Rocky Mountains, the Colorado and Columbia Plateaus, the Basin and Range Province, and the Pacific Coast mountains and basins. Classroom work, plus required travel and field research will develop a first-hand understanding of these areas. Students must pay own expenses for field trip. (60-0) Q

GEO 265 Geography of Energy **2 Sem Hrs**
Focuses on past, present and future energy production, its effect on the economy, and its impact on the environment of Michigan and selected regions of the United States and Canada. Field trips will be made to selected energy facilities such as atomic power; hydroelectric and solar power installations; an oil field; a shaft and strip coal mine; and energy sensitive industries. Students must pay own expenses. (45-0) S

GEO 266 Geography of New England **4 Sem Hrs**
Focuses on both the physical and historical geography of New England. Study areas include Cape Cod, the Boston area, the White Mountains, the Maine coastline and Acadia National Park. The students will study the development of the New England landscape through cultural sequencing, viewing the present as a mosaic of past landscapes. Artifact landscapes will be examined from the American Indian, Colonial Industrial Revolution, maturing economy, and modern eras. Field study, in addition to classroom work is required and must be paid for by the students. (60-0) Q

GEO 267 Geography of Continental Glaciation 1 Sem Hr
Reviews the causes and consequences of continental glaciation. Topics include climatic change, past and present distribution of continental glaciers and landscape features formed by glaciation. The possibility of the world entering another "ice Age", will also be discussed along with what social modifications might be necessary if this should happen. Field work in a glaciated area will be included. Students must pay own expenses. (15-0) O

GEO 268 International Studies in Geography 4 Sem Hrs
A geographic interpretation of selected world regions emphasizing their physical environments, cultural patterns and economic development. Includes class lectures, individual consultation and international field study. Expenses for the field study must be borne by the student. By prior arrangement with appropriate faculty, students may also take international studies in the following disciplines: SOC 268, ECN 268, GB 268. (60-0) Q

GEO 269 Geography of Florida **3 Sem Hrs**
Focuses on both the physical and cultural geography of Florida. Study areas include the Florida karst landscapes, the Everglades, barrier islands and coral reefs. Students will also investigate citrus and winter vegetable growing, livestock raising, phosphate mining, and the recreational-retirement industry. Various environmental impact problems will be discussed. Field study in addition to classroom work is required and must be paid for by the students. (45-0) O

GEO 270 Energy for the Future **1 Sem Hr**
An examination of a variety of alternative energy technologies, including solar, wind, wood, biologically derived liquid fuels, geothermal energy, etc., that may greatly change our patterns of energy procurement by the year 2000 A.D. Weekend field work is required. Students must pay own expenses. (15-0) S

GEO 271 Michigan Energy Resources **1 Sem Hr**
An examination of Michigan's primary energy resources including production and demand for oil, natural gas, and nuclear power. Potential environmental impacts will also be discussed. Weekend field work is required. Students must pay own expenses. (15-0) S

GEO 272 Geography of Kentucky **1 Sem Hr**
A regional geographic interpretation of the state of Kentucky, emphasizing its physical, cultural, economic, and historical patterns. Classroom work, travel and field research in Kentucky are required. The student must pay own expenses. (30-0)

GEO 274 Geography of West Virginia 2 Sem Hrs
A regional geographic interpretation of the state of West Virginia, emphasizing its physical, cultural, economic and historic patterns. Classroom work, travel and field research in West Virginia are required. Students must pay own expenses. (30-0)

GEO 275 Geography of the Pacific Northwest 3 Sem Hrs
A regional geographic interpretation of the states of Washington and Oregon, emphasizing their physical, cultural, economic and historical patterns. Classroom work, travel to the field research in the area are required. The students must pay own expenses. (45-0)

GEO 290-299 Special Projects in Geography

Geology Courses ♦♦♦♦♦

GLG 102 Volcanoes and Earthquakes **1 Sem Hr**
A study of the internal dynamics of the earth. Major topics will include: catastrophic events in historic times, products of vulcanism, volcanic rocks, vulcanism and geothermal energy, relationship to earthquakes and volcanoes to plate tectonics, interpretation of earthquake records, man-made earthquakes, earthquake prediction and control. (15-0) O

GLG 103 Life on Other Worlds??? **1 Sem Hr**
An introduction to the origin of life on earth; the nature and characteristics of life, as we know it. An analysis of the chances for life occurring on other worlds in space such as Mars, Jupiter or other planets. A discussion of JFOs and their bearing on the possibility of intelligent life elsewhere in the Galaxy; our attempts to communicate with intelligent life other than ourselves. (15-0) O

GLG 104 Cosmic Evolution **1 Sem Hr**
An inquiry into theories concerning the origin, evolution, and history of the universe. Recent discoveries, such as black holes, quasars, and pulsars, are examined and used to illustrate how our ideas of the universe change. (15-0) O

GLG 111 Physical Geology **4 Sem Hrs**
Study of the overall structure of the earth and the rocks which form the crust. An introduction to the processes of erosion and weathering caused by the work of natural agents such as water and ice. Discussion of Plate Tectonic Theory and implications. Laboratory study of common rocks, minerals and selected fossils. Field trips optional. (45-30) A

GLG 112 Evolution of the Earth **4 Sem Hrs**
Prerequisite: GLG 111. Study of the history of the Earth as recorded in rocks. Description of continental structural development in terms of plate tectonics using North America as the principal example. Origin and evolution of life. Laboratory work includes studies of invertebrate fossils and geologic map interpretation. Field trips optional. Formerly called Historical Geology. (45-30) W, odd numbered years only.

4 Sem Hrs

An exploration of how the ocean has stabilized the surface environment of Earth. Consideration will be given to physical and chemical properties of seawater and its interactions through geologic time with the floor of the ocean and the atmosphere to produce an environment will be investigated from the standpoint of such issues as the increasing importance of the ocean as a source of natural resources, changing shoreline problems and pollution. Credit may be earned in GLG 115 or GLG 116 but not in both. (45-30) Q

3 Sem Hrs

Focuses on the marine environment as a unique feature of the plant Earth and investigates areas of scientific and public concern. Includes the effect of the ocean on Earth's weather; the diversity of life forms contained in the ocean; the contributions of the ocean to the physical and historical development of Man; the impact of oceanic pollutants; and the potential exploitation of marine resources. Credit may be earned in GLG 116 or GLG 115 but not in both. (45-0) O

3 Sem Hrs

An interpretation of the origin and characteristics of the principal geological features of Michigan through the application of basic geological principles. Includes some identification of rocks, minerals and fossils. Occasional field trips. (45-0) O

2 Sem Hrs

GLG 123 - Geology of the Great Lakes Area
An interpretation of the principal geological features of the Great Lakes region through the application of basic geological principles. Includes some identification of rocks, minerals, and fossils. Field trip required. Students must pay own expenses. (30-0) SF

3 Sem Hrs

A study of the origin of geologic features of selected national parks. Includes an analysis of rocks, minerals, fossils, and physical landscapes as well as the geologic history of varied regions of the United States. Interpretation of topographic and geologic maps of selected areas. (45-0) O

3 Sem Hrs

Selected topics in Earth's long history. These will include the origin of the Earth, the origin of life on Earth, evolution, the fossil record, plate tectonics, the extinction of various organisms, and other topics of current geological interest. (45-0) O

3 Sem Hrs

GLG 128 Introduction to Planetary Geology. Topics will include the origin of the universe and formation of the solar system; geological properties of the planets and other cold bodies; possibilities of extra-terrestrial life; and other topics of current astro-geological interest. (45-0) O

2 Sem Hrs

Prerequisite: Permission of instructor. A study of the origin and distribution of the geologic features of the Colorado Plateau region, focusing particularly on the National Parks and monuments of the area. Major topics include rock types, origin of landscape features, economic geology, environmental concerns, and the geologic history of specific areas. Field work in the Colorado Plateau is required. Student must pay own expenses. (30-0) S

1 Sem Hr

GLG 262: Geology of the Canadian Shield
 Prerequisite: Permission of instructor. A study of the geologic and geographic features of the Lake Superior region of Canada. Major topics include rock types, origin of landscape features, physical environments, natural resources, and relationships of humans with the environment. Weekend field trip required. Students must pay own expenses. (15-0) O

2 Sem Hrs

GLG 263: Geology of the Rocky Mountains
Prerequisite: Permission of instructor. A study of the origin and distribution of geologic features of the Rocky Mountains of the United States and Canada. Major topics include rock types, origin of landscape features and mountain structure, economic geology, human impact on the environment, and the geologic history of specific areas. Field work in the Rocky Mountains is required. Students must pay own expenses. (30-0) S

2 Sem Hrs

Prerequisite: Permission of instructor. A study of the origin and distribution of geologic features of the Pacific Northwest states of the United States (Oregon, Washington, Idaho) and British Columbia, Canada. Major topics include rock types, origin of landscape features, volcanism, economic geology, environmental concerns, and the geologic history of the area. Field work in the region is required. Students must pay own expenses. (30-0) S

2 Sem Hrs

Prerequisite: Permission of Instructor. A study of the origin and distribution of the geologic features of the Grand Canyon of Arizona. Major topics include rock types, origin of landscape features, geologic history of the Grand Canyon, and human impact of the environment. Field work in the Grand Canyon is required. Students must pay own expenses. (30-0) S

4 Sem Hrs

A geologic interpretation of selected world regions. Emphasis on physical environments, natural geologic processes, and geologic history of the study area. Includes class lectures, individual consultation, and international field study. Expenses for the field study must be borne by the student. (60-0) O

GLG 290-299 Special Projects in Geology

History Courses ♦♦♦♦♦

3 Sem Hrs

HIS 103 A History of American Government 3 semester hours
An historical survey of the traditions and institutions of the American system of government from colonial times to the present. Special attention will be given to the historic development of the Presidency, the Congress, and the federal court system. Civil liberties, political participation, and the dynamics of federalism will also be examined from an historical perspective. (This course satisfies the American Government graduation requirement in specified curricula.) (45-0) O

4 Sem Hrs

HIS 111 – A Survey of Early Western Civilization (60-0) A
Political, social, economic and cultural history of Europe from prehistoric times to the end of the Reformation. Particular attention given to characteristics of civilizations and their relevant contributions to the modern world. (60-0) A

4 Sem Hrs

HIS 111 recommended. Political, social, economic, and cultural history of Europe from the 1600s to the present time. Particular attention is given to cultural and democratic movements and their influence on current history. (60-0) A

2 Sem Hrs

(Not open to students with credit in HIS 114.) An exploration of the history of Michigan from the time of the first known human inhabitants, through the periods of French and British settlement and U.S. acquisition. Major emphasis will be given to the study of Michigan history through the periods of territorial status, statehood and industrial growth. Special attention will be directed toward the Saginaw Valley and its relationship to a developing Michigan. (30-0) FW

3 Sem Hrs

HIS 114 History of Michigan with Project
(Not open to students with credit in HIS 113.) An exploration of the history of Michigan from the time of the first known human inhabitants, through the periods of French and British settlement and U.S. acquisition. Major emphasis will be given to the study of Michigan history through the periods of territorial status, statehood and industrial growth. Special attention will be directed toward the Saginaw Valley and its relationship to a developing Michigan. The student will be required to complete a major paper or project. (45-0) FW

2 Sem Hrs

A history of the Saginaw Valley region from pre-settlement until the present. Emphasis will be placed on viewing the Valley from the perspective of material history. A field trip to local sites or a substitute assignment is required. (30-0) O

HIS 201 History of the Labor Movement 2 Sem Hrs
A survey of labor history in the United States from the beginning of the industrial revolution to the present. Class projects will include a study of labor history in the Saginaw Valley. (30-0) O

HIS 204 American Business History 2 Sem Hrs
Covers the period from early colonial to modern times. Emphasis will be placed upon the religious, social, political and economic forces that have shaped the unique character of American business. Major focus will be upon late nineteenth century and modern times with emphasis on industrial growth, business consolidation, the anti-trust movement and the effects of the Depression and New Deal on business. This course may also be taken as GB 204. Students receiving credit in this course cannot receive credit for HIS 205 or GB 204 or 205. (30-0) FW

HIS 205 American Business History/With Project 3 Sem Hrs
Covers the period from early colonial to modern times. Emphasis will be placed upon the religious, social, political and economic forces that have shaped the unique character of American business. Major focus will be upon late nineteenth century and modern times with emphasis on industrial growth, business consolidation, the anti-trust movement and the effects of the Depression and New Deal on business. The student will be required to complete a major paper or project. This course may also be taken as GB 205. Students receiving credit in this course cannot receive credit for HIS 204 or GB 204 or 205. (45-0) FW

HIS 214 Early African-American History 3 Sem Hrs
Pre-European Africa to 1877
An examination of the transition of Africans to Afro-Americans, the Americanized institution of slavery, the development of the Afro-American community, and its impact on the culture and society of the new world. Also examines Afro-American resistance to slavery, free Afro-Americans, and the participation of the Afro-American community in the Civil War and Reconstruction. (45-0) O

HIS 215 Recent African-American History: 1850 3 Sem Hrs
Focus will be on the ideological, strategic and demographic changes and conflicts of Afro-Americans since emancipation, with special emphasis on legal and extra-legal terror and the many social movements (Bookerism, Garveyism, Pan-Africanism, and the 1960s). Also examines emerging Africa, new-racism, and the diversity within the current Afro-American community. (45-0) FW

HIS 217 Introduction to La Raza 3 Sem Hrs
(Mexican-American) Studies
A survey of the social, cultural, economic and political history of the Mexican-American peoples. Included are the rise and fall of the ancient Indian tribes of Mexico, history of Mexico to the present, the redevelopment of Mexican-American culture in the United States, and the theories attempting to explain the present condition of Mexican Americans in the United States. (45-0) O

HIS 218 Heritage: Civilization and the Jews 2 Sem Hrs
A survey of Jewish history from the 13th century B.C.E. up to the present. Emphasis is on the shaping of Jewish experience by the political, economic and social structures of the societies in which it developed. Also included are the impact of Judaism on its surrounding cultures and the differences and tensions between the Jews of Israel and those living in other parts of the world. (30-0) O

HIS 221 Early American History 3 Sem Hrs
An introductory course in American history from its immediate European background to the end of the Reconstruction Era. Special emphasis is given to the growth of institutions and ideas. The political, economic, and social experiences of the young Republic, and their influence on contemporary American are also examined. (45-0) A

HIS 222 Recent American History 3 Sem Hrs
A survey of modern America from the closing of the West in 1890 to the present with special emphasis on the formation of American character traits. Topics such as the frontier, abundance, growth of government and regulation, the Depressions, and the Cold War will be examined for their influence upon the development of the American individual. (45-0) A

HIS 232 History of Russia 3 Sem Hrs
HIS 111 or 112 recommended. A survey of the major lines of Russian political and cultural development from Kiev in the 1900s to the present, with more emphasis on the 19th and 20th Centuries than on earlier eras. Student reports on topics historical and cultural constitute about 40 percent of course. (45-0) O

HIS 261 The Civil War Era 3 Sem Hrs
A survey of American Civil War era, from the origins of sectional conflict through reconstruction. While tracing the narrative development of major events, the course will examine the social, economic, political, and technological changes brought by the war, which made the Civil War the defining event in modern American history. (45-0)

HIS 266 American Studies I 3 Sem Hrs
This is a team taught, interdisciplinary study of selected aspects of American life and culture conducted by staff of the History and English departments. Topics will be examined as they appear in history and in literature so the student can see responses the historical realities of American life. Credit may be earned in HIS 266 or ENG 266 but not in both. (45-0) O

HIS 268 International Studies in History 4 Sem Hrs
The student will do an in-depth historical study in one or more aspects of the history of the country other than the United States. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (60-0) O

HIS 275 The Vietnam War 3 Sem Hrs
An interdisciplinary examination of the Vietnam War from its earliest beginnings as a colonial conflict to the withdrawal of American forces in 1975. The course seeks to integrate military, diplomatic and political factors in order to understand America's involvement. It also is an attempt to consider American decision-making in the broad context of the nation's global outlook and policies. Credit may be earned in HIS 275 or POL 275 but not in both. (45-0) O

HIS 290-299 Special Projects in History

Health Science Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦

HSC 105 Medical Terminology 2 Sem Hrs
Designed to develop a basic understanding of the spelling, meaning and pronunciation of commonly used prefixes, suffixes, and root words, and their combining forms, used in all fields of allied health professions. (30-0) A

HSC 130 Basic Health Care Techniques I 1 Sem Hr
Introduces the fundamentals of recording in and interpretation of patient health records and the basics of body mechanics and patient ambulation practices and methods. (15-0) A

HSC 135 Basic Health Care Techniques II 1 Sem Hr
Introduces the fundamentals of basic microbiology and aseptic techniques. (15-0) A

HSC 140 Basic Medical Emergencies 2 Sem Hrs
Provides the background necessary to respond to basic emergency situations in the clinical setting. Includes respiratory, cardiac, neurological, and diabetic emergencies. Cardiopulmonary resuscitation certification requirements must be met for successful completion of course. (30-0) A

HSC 205 Legal Aspects of the Health Care System 2 Sem Hrs
An overview of state legislation affecting various aspects of the health care system, including study of common legal problems, etc., such as dispensing of medication and privacy of medical records. Designed primarily for health care professionals. (30-0) W

HSC 290-299 Special Projects in Health Science

Interior Design Courses ♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

ID 100 Introduction to Interior Design 3 Sem Hrs
This course will cover the aims, principles, and means of design. Light and color will be thoroughly explored including color theory and color planning. Home planning will be analyzed in relation to activities, space and equipment. Enrichment of space through the use of accessories, plants, paintings, prints, and sculpture will be studied. The student will also be introduced to lighting, heating, ventilation, and acoustics. (45-0) FW

ID 170 Design Elements 4 Sem Hrs
Prerequisite: ID 100, GB 110, and permission of instructor. Appropriate treatment and materials for windows, walls and floor coverings will be studied. Emphasis will be placed on current treatment trends and the process of measuring and translating measurement accurately into material needs and cost estimates. Field trips, guest speakers and practical experiences will be emphasized. (60-0) F

ID 200 Spatial Analysis and Presentation 3 Sem Hrs
Prerequisite: ARC 105 and ID 100. (Recommended that ID 200 and ID 210 be taken concurrently). Emphasis will be placed on the analysis of spatial arrangement and the relationship it has to adjacent space and accepted standards. CAD and basic drawing methods will be utilized and standard building blueprints will be studied. Students will conduct presentations of floor plan arrangements, interior elevations, and interior perspectives. Familiarization with micro computers required or permission of instructor. (45-0) W

ID 210 Furniture 3 Sem Hrs
(Recommended that ID 200 and ID 210 be taken concurrently). A study of furniture as an essential element in interior design. Major furniture styles will be covered from a historical perspective with applications to present uses. The manufacture of both case and upholstered goods for the purpose of learning construction details, order, placement and delivery cycle, and the cost to quality relationship will be included. (45-0) EW

ID 230 Applied Interior Design 3 Sem Hrs
Prerequisite: ID 210. Designed so the student will learn how to deal effectively with special problem areas in interior decoration. The student will learn how to work with clients, how to interview and determine needs and wants and translate the information into practical decorating solutions, including shopping for appropriate floor and wall coverings, furniture, window treatment and accessories. The student will work with an actual client family, be given an established budget, prepare and give appropriate oral and visual presentations to the client. (45-0) W

ID 240 Commercial Interior Design 2 Sem Hrs
Prerequisite: ID 200 and permission of instructor. A study of materials used, equipment necessary, and furniture available in the field of contract/commercial design. Legal requirements for commercial, institutional and other public spaces will be discussed. Student presentation will be emphasized. (30-0) F

ID 241 Contract/Commercial Design II 2 Sem Hrs
Prerequisite: ID 240 and permission of instructor. The application of contract/commercial elements utilizing actual space project examples. Contract design within legal boundaries will be stressed. Project examples will include commercial offices, institutional work sites and other public environments. Student presentations will be emphasized. (30-0) F

ID 245 Design Trends 2 Sem Hrs
Prerequisite: ID 241, ID 230 or concurrently. Study of current trends in furniture, accessories, textiles, and lighting. Student presentation, guest speakers and field trips will be emphasized. This is a "capstone" course recommended to be taken concurrently with ID 230. (30-0) W

ID 250 Seminar in Interior Design 2 Sem Hrs
Prerequisite: ID 100 or permission of instructor. Students will study the New York interior design market. Displays, styles of furniture, and current period representations will be studied at the manufacturer showrooms. Tour of designers' studios and discussion with area designers, lamp and accessories, museums, school, textiles company,

carpeting firms and other places of interest will be included. Normally, the class will spend one week in New York at the beginning of spring semester. Students pay tuition plus all expenses. (30-0) S

ID 251 Merchandise Mart Experience 1 Sem Hr
Prerequisite: ID 100 or permission of instructor. Primarily for majors in the Interior Design curriculum. Students will study the Chicago Merchandise Mart and area resources available to interior designers. Opportunity to visit manufacturing plants, showrooms, area designers, retail operations, museums and other places of interest will be arranged. Normally the class will spend three days in the market. Students pay tuition plus all their expenses. (15-0) F

ID 290-299 Special Projects in Interior Design

Interdisciplinary Humanities Courses ♦♦♦♦♦

IHU 101 Humanities Through the Arts 3 Sem Hrs
A survey of the human condition as seen through film, dramas, music, literature, painting, sculpture, and architecture with an emphasis on the history, techniques, meaning, and evaluation of individual works of western art. (45-0) A

IHU 102 Chicago Cultural Forms: An Interdisciplinary Humanities Field Trip 3 Sem Hrs
The humanities will be directly experienced through the rich cultural heritage of Chicago reflected in its renowned museums, architecture, outdoor art treasures, ethnic mix jazz clubs, local theater troupes, the Chicago Symphony and Lyric Opera. Cultural forms will be studied to discover the contribution to life by the humanities. Students must pay own expenses. (45-0) O

IHU 161 International Projects in Cross-Cultural Learning 1 Sem Hr
Student volunteers will be assigned to either community agencies providing cross-cultural experiences or to an international work experience. Supportive seminars will provide both structure and background knowledge of the particular country involved. (A minimum of 30 hours volunteer placement is required). Credit may be earned in SOC 161 or IHU 161, but not both. (15-30) O

IHU 162 International Projects in Cross-Cultural Learning 2 Sem Hrs
Student volunteers will be assigned to either community agencies providing cross-cultural experiences or to an international work experience. Supportive seminars will provide both structure and background knowledge of the particular country involved. (A minimum of 60 hours volunteer placement is required.) Credit may be earned in SOC 162 or IHU 162, but not both. (15-60) O

IHU 201H Honors Colloquy 3 Sem Hrs
Prerequisite: Approval by Honors Program Director. Required of all honors program students. Explores self as learner, interaction between the learning self and others, growth and development of the learner so as to further self-knowledge, develop a sense of community, provide intellectual growth, bring out connections between disciplines, provide a forum for exchange of ideas, and provide each student with a mentor relationship. Individual conferences with instructor and one all-day workshop are required. (45-0) FW

IHU 282H Seminar in Social Issues 3 Sem Hrs
Prerequisite: Honors program participant or permission of instructor. An integrated study involving exploration and development of critical thinking, analysis and problem-solving skills with an interdisciplinary approach focusing on a selected social issue. (45-0) W

IHU 290-299 Special Projects in Interdisciplinary Humanities

Industrial Supervision Courses ♦♦♦♦♦♦♦♦♦♦

IS 104 Construction Foreman Training 3 Sem Hrs
Course developed by construction people for construction people who wish to acquire foreman training skills. Covers job supervisor's role as the person in the middle and relates the concepts of leadership, motivation, problem solving, communication, training, safety, materials handling and evaluation to foreman tasks. (45-0) O

IS 110 Industrial Supervision 3 Sem Hrs
Designed to give the student a general understanding of the following areas: Introduction to management; organization structures; product development; plant location and equipment; cost controls, material and production controls; personnel administration and management. (45-0) FE

IS 118 Industrial Safety 2 Sem Hrs
Safety fundamentals as related to the economics of accident prevention, analysis of accident causes, mechanical safeguards, fire prevention, plant housekeeping, occupational diseases, first aid, safety organization, protective equipment, and the promotion of safe practices. (30-0) FE WD

IS 120 Supervisor/Employee Relations 3 Sem Hrs
Prerequisite: IS 110. Course designed to help the supervisor solve day-to-day people problems. Presents techniques for communication and decision-making which are based on work experience and scientific research. (45-0) FE

IS 240 Production Planning & Control 4 Sem Hrs
Prerequisite: MFG 111, MT 110 or MTH 100 or equivalent. Pre-production planning of the most economical methods, machines, operations, and material for the manufacture of a product. The planning, scheduling, routing, and detailed procedure of production control. (60-0) O

IS 290-299 Special Projects in Industrial Supervision

Legal Assistant Courses ♦♦♦♦♦♦♦♦♦♦

LAS 110 Roles & Responsibilities 1 Sem Hr
An overview of the various roles, responsibilities and problems found in the legal assistant profession, with a review of ethics maintained in the code, making ethical decisions, and legal liability of the Legal Assistant. Courthouse orientation required. (15-0) FE

LAS 115 Principles of Substantive Law 3 Sem Hrs
Prerequisite: LAS 110 or concurrently. A general introduction to the dynamics of the law and legal process, including the origin and development of the law, types of law and the judicial system. Examination of substantive legal subjects including contracts, torts, property, criminal and business related subjects. Emphasis on recognition of legal issues and the understanding of legal terminology. (45-0) FE

LAS 120 Legal Research & Writing I 3 Sem Hrs
Prerequisite: LAS 110, LAS 115 and ENG 111 or OSE 151. Legal research techniques to familiarize students with the most frequently used reference materials. Includes basic legal reasoning and writing skills for logical, organized problem solving. (45-0) WE

LAS 125 Civil Litigation I 2 Sem Hrs
Prerequisite: LAS 110, LAS 115 and ENG 111 or OSE 151. The various stages of evaluating and preparing a civil matter for litigation, using Michigan rules of civil procedures and evidence will be presented. An efficient and systematic way of handling fact investigation, drafting pleadings, discovery and file control will be studied. (30-0) WE

LAS 130 Legal Research & Writing II 3 Sem Hrs
Prerequisite: LAS 120 with minimum grade of C (2.0). Specialized legal research techniques, trial and appellate briefs and state and federal law. Basic legal reasoning and writing skills for logical, organized problem solving. Independent research in a law library may be necessary. (45-0) SPE

LAS 135 Civil Litigation II 2 Sem Hrs
Prerequisite: LAS 125. Pretrial stages of a lawsuit with emphasis upon trial preparation including motions in limine, witness preparation and jury voir dire, concluding with trial and post-trial motions and the appeal process. (30-0) WE

LAS 140 Survey of Computers in the Law Office 2 Sem Hrs
Prerequisite: Students in Legal Assistant Studies program, or permission of instructor. Survey of how computers can be utilized in the law office, including WESTLAW and LEXIS. (30-0) SE

LAS 150 Real Estate Law 2 Sem Hrs
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. A practical introduction to the principles of real estate law. Familiarization with the process and procedures involved in the buying and selling of real estate, mortgage loans and leasing, in addition to assisting the lawyer in preparing or evaluating surveys and legal descriptions, deeds of conveyance, title search reports, agreements, closing and leases. (30-0) WE

LAS 210 Estate and Trust Administration 2 Sem Hrs
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. An in-depth study of the administration of a decedent's estate from initial conference through the closing of an estate and the distribution of assets with emphasis on preparation of proper probate documentation, preparation of proper tax returns including federal estate tax returns and fiduciary returns, and explanation of Michigan inheritance tax. (30-0) FE

LAS 215 Financial Recordkeeping in the Law Office 2 Sem Hrs
Prerequisite: Students in the Legal Assistant Studies program or permission of instructor. A broad overview of basic accounting principles to provide the Legal Assistant with a general understanding of the accounting process and how it relates to the legal field. (30-0) FE

LAS 220 Environmental Law 2 Sem Hrs
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. A survey of issues pertaining to environmental law. Emphasis on the process of integrating environmental policies into the social system, implementing environmental policies through the legal system, and accommodating environmental values with economic realities, traditional property rights, and national energy policy. (30-0) WE

LAS 230 Administrative Law 2 Sem Hrs
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. Overview of the functions and procedures of government agencies. Includes analyzing statutory authority and subsequent case law, preparing and processing claims, providing information sought by administrative subpoenas and taking depositions. (30-0) WE

LAS 235 Survey of Criminal Law 3 Sem Hrs
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. A study of formal legal processes involved in criminal practice from arrest through post-trial motions, sentencing and appeal. Constitutional rights of the accused and the definitions of various criminal offenses will also be covered. (45-0) WE

LAS 240 Domestic Relations 2 Sem Hrs
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. A study of the theoretical and practical aspects of family law with an emphasis on Michigan family law, including dissolution of marriage, child custody, support, property settlements, judgements and the role of the Friend of the Court. Basic techniques in obtaining facts from clients in order to prepare and draft complaints, answers, financial affidavits and verified statements will be presented. (30-0) WE

LAS 245 Personal Injury 3 Sem Hrs
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. An introduction to medical terms based on a "building block" system of word formation. The principles and legal theories relating to intentional and negligent torts to the person. Will include workman's compensation, malpractice/negligence of professionals, auto negligence, products liability, dram shop liability, assault and battery, and premises liability. (45-0) WE

LAS 250 Corporate Law **2 Sem Hrs**
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. The nature of corporations, partnerships and proprietorships with an emphasis on the corporate structure including formation and dissolution, amending Articles of Incorporation and by-laws, shareholders' and directors' meetings, corporate equity and debt securities, as well as employment and shareholders agreements. (30-0) FE

LAS 253 Bankruptcy Law **2 Sem Hrs**
An overview of bankruptcy law. Designed to illustrate not only the legal aspects of the law, but to demonstrate the practical approach to working in this area. A review of Federal Bankruptcy law, the different types of bankruptcy chapters, exemptions, dischargeable and non-dischargeable debts, preferences, the role of the Bankruptcy Trustee and preparation of petitions and schedules in bankruptcy. Emphasis will be placed on the effective use of the legal assistant. (30-0) O

LAS 255 Law Office Management **2 Sem Hrs**
Prerequisite: Students in Legal Assistant Studies program or permission of instructor. A study of techniques required for management of a successful law office including office automation, procedures manuals, calendars, library maintenance, and personnel administration. (30-0) SE

LAS 260 Legal Assistant Internship **2 Sem Hrs**
Prerequisite: Must have completed all Legal Assistant Studies required courses plus 6 hour of electives and permission of instructor. Eighty (80) hours of work experience in a law or law-related office. Internship credit hours may not be used to satisfy Legal Assistant Studies or elective hours. (10-80) O

Medical Assistant Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

MA 105 Computer Use in the Medical Office **3 Sem Hrs**
Introduces computer applications in the medical office. The fundamentals of a Data-Base System, Spread Sheet System and Word Processing as they apply to the medical office will be covered. Evaluation of various computer systems for the medical office will be included. Emphasis will be upon computer utilization. (30-30) WD

MA 205 Medical Office Pharmacology **1 Sem Hr**
Prerequisite: BIO 101, HSC 105, or permission of instructor. Necessary information to comply with the federal laws regarding accurate and secure drug records and the interpretation of prescriptions and communication of medication orders to other professionals. (15-0) WD

MA 206 Pharmacology Applications **1 Sem Hr**
Prerequisite: MA 205, MA 210, or permission of instructor. Preparation and administration of drugs commonly used in the medical office, and principles of self administration of medications. (15-0) WD

MA 210 Assisting the Physician I **4 Sem Hrs**
Prerequisite: BIO 101, BIO 102, HSC 105, MTH 117, and OSE 116, each with a C (2.0) minimum grade. Provides the opportunity to develop medical assisting skills used in a health care setting. Includes determination of vital signs, patient preparation, basic laboratory techniques and the care of office instruments. (45-45) F

MA 220 Assisting the Physician II **4 Sem Hrs**
Prerequisite: MA 210 with C (2.0) minimum grade. Provides the opportunity to develop skills for performing electrocardiograms, assisting in minor surgeries and assisting the physician in the administration of treatments and medications. (45-45) WD

MA 230 Medical Assistant Internship **4 Sem Hrs**
Prerequisite: MA 105, MA 220, HSC 140, HSC 205, OSE 152, OSE 157, OSE 172, OSE 255, OSE 266, and OSE 276 each with a C (2.0) minimum grade and SPH 114. Provides the opportunity to observe and practice medical assisting skills in a health care setting. Seminars held on campus will provide a forum for discussion of office experiences. (40-140) SD

MA 290-299 Special Projects in Medical Assisting

Manufacturing Technology Courses ♦♦♦♦♦

MFG 111 Manufacturing Processes **3 Sem Hrs**
Survey of fundamental production processes including reduction, steel making, heat treating, foundry practice, hot and cold working, press work, and projection machining processes. A research paper and an oral report are required in this course. (45-0) FW

MFG 124 Group Technology **2 Sem Hrs**
Prerequisite: MFG 111 or employed in a manufacturing industry. Basic group technology as it relates to the design and machining of a part in the manufacturing work place. An introduction to design of a part for automation (CAD). (30-0) O

MFG 212 Manufacturing Cell **2 Sem Hrs**
Prerequisite: MFG 124 and CNC 160. An introduction to the manufacturing cell as it relates to the work place. Various cell information, i.e., tooling, material handling, layout, etc. (30-0) O

MFG 216 Factory Automation **2 Sem Hrs**
Prerequisite: MFG 212. A study of man-machine interface in a contemporary automated factory environment and of the factories of the future. Students work together on projects in group technology, CAD/CAM, JIT, part and material handling, synchronous production, ergonomics, and plant layout. (15-30) O

MFG 230 Plastics Technology **2 Sem Hrs**
Designed for the manufacturing technician, supervisor, or engineer who needs a basic knowledge of physical and chemical properties of plastic materials. Useful for those involved in the manufacturing, testing, or design of plastic products. (30-0) WE

MFG 231 Plastic Part Design & Processing **2 Sem Hrs**
Focuses on the elements of optimal part design, including polymer structure, short and long-term material properties, selection criterion, cost relationships, testing, tooling, and processing. Processes covered are injection molding, extrusion, and blow molding. (30-0) O

MFG 232 Injection Molding Technology **2 Sem Hrs**
Prerequisite: MFG 230 or permission of instructor. Reviews the fundamentals of materials, properties and characteristics, and covers in greater detail the injection molding process, inter-relationships of process parameters, basic injection mold design and construction, and plastic part design. (30-0) O

MFG 282 Theory of Foundry Practices **3 Sem Hrs**
Designed to acquaint the student with foundry practices and the theoretical basis for them. Subjects covered include properties of liquids, pure metals and alloys, equilibrium and non-equilibrium solidification, gating and feeding castings, cast iron metallurgy, molding and sand technology, refractory and melting practice, finishing operations casting inspection, and casting design. (45-0) O

MFG 290-299 Special Projects in Manufacturing Technology

Machine Tool Operations Courses ♦♦♦♦♦ ♦♦♦♦♦

MS 101 Machine Shop I **4 Sem Hrs**
Prerequisite: Admission to the Machine Tool Operation Program. An orientation to the machine tool operation and machining industry. Emphasis will be placed on shop and industrial safety. Non-precision, precision measurement and basic layout are also included. (0-100) A

MS 102 Machine Shop II **4 Sem Hrs**
Prerequisite: MS 101. Designed to develop skills in using basic hand tools, selecting speeds and feeds on metal cutting machines, and selecting and applying cutting fluids. Basic instruction in the operation of metal saws is included. (0-100) A

MS 103 Machine Shop III **4 Sem Hrs**
Prerequisite: MS 101. Designed to provide basics of engine Lathe operation including; turning, facing, boring, and threading with emphasis on machine operations. (0-100) A

MS 104 Machine Shop IV 4 Sem Hrs
Prerequisite: MS 101. The set-up and operation of a vertical and horizontal milling machine with emphasis on safety, cutter selection and accuracy. (0-100) A

MS 105 Machine Shop V 4 Sem Hrs
Prerequisite: MS 101. The set-up and operation of sensitive, upright and radial arm drilling machines. Selection and use of carbide tooling also covered. (0-100) A

MS 106 Machine Shop VI 4 Sem Hrs
Prerequisite: MS 101. The operation and set-up of surface grinders and drill grinding machines. Grinding wheel selection and safety also included. (0-100) A

MS 107 Machine Shop VII 4 Sem Hrs
Prerequisite: MS 101 and 103. Advanced engine lathe operations including form turning, acme threading, internal threading and faceplate set-up. (0-100) A

MS 108 Machine Shop VIII 4 Sem Hrs
Prerequisite: MS 101, 102 and 106. Set-up and operation of the tool and cutter grinder, cylindrical grinder and internal grinder. Emphasis on close tolerance control. (0-100) A

MS 109 Machine Shop IX 4 Sem Hrs
Prerequisite: MS 101. Application of advanced measurement and inspection techniques using electronic equipment and gage blocks. Covers both linear and angular measurement, basic tool making techniques and advanced milling techniques. (0-100) A

MS 112 Ferrous Heat Treatment 2 Sem Hrs
Designed to acquaint students with various forms of heat treatment applied to plain carbon steels, cast iron, alloy tool steels and stainless steel. Course will also include steel classification and machinability. (30-0) WD

MS 113 Machining Processes 2 Sem Hrs
Course designed to familiarize students not majoring in the machine trade in the use and application of tool room machines. Student gains limited skills in use of lathes, drills, mills, instruments, grinders, and saws. (15-45) O

MS 114 Machine Tools 3 Sem Hrs
Introduction to the industrial shop. Safety, materials, hand tools, precision instruments, drill presses, lathes, shapers, mills, grinders, and saws. (15-75) FW

MS 115 Machine Tools II 3 Sem Hrs
Prerequisite: MS 114 or equivalent. The understanding of basic machine tool operations and the ability to read blueprints are required. Designed to give advanced training in machine tool operations and setups with emphasis placed on lathes, mills, grinders, saws, and computer numerical control. The student will be required to complete all the operations within print specifications. (15-75) FW

MS 120 Machinist's Handbook 2 Sem Hrs
Emphasis on locating and applying information found in the Machinery Handbook. The use of mathematical formulae and tables will be covered. (30-0) WD

MS 210 Machine Shop X 4 Sem Hrs
Prerequisite: MS 102, MS 104 and MS 109. The operation of the DeVlieg jig mill including: machine set-up, basic operations, operator responsibilities and safety. (0-100) O

MS 211 Machine Shop XI 4 Sem Hrs
Prerequisite: MS 210. The operation of the Anilam Commando control in conjunction with the DeVlieg jig mill including: basic features, programming, and programmed machining using all available features. (0-100) O

MS 212 Machine Shop XII 4 Sem Hrs
Prerequisite: MS 106 and 108, or permission of instructor. The operation of the Moore jig grinder including: safety, operator responsibilities, hole grinding, radius grinding and bottom grinding. (0-100) O

MS 290-299 Special Projects in Machine Tool Operations

Mechanical Technology Courses ♦♦♦♦♦♦♦♦♦♦

MT 110 Machine Tool Calculations 5 Sem Hrs
Course satisfies the mathematical needs of tradespeople and technicians in the machine tool and drafting fields. Topics covered are whole numbers, fractions, decimals, metric conversions, precision instruments, ratio and percent, algebra, applied geometry, shop trigonometry, tapers, gears, belt and chain speeds, cutting speeds, and screw threads. Credit may be earned in MT 110 or WELD 110 but not both. (75-0) FW

MT 125 Pre-Apprenticeship Mechanics 3 Sem Hrs
Study of physical principles as they relate to everyday work experiences. Space visualization, simple machine elements, forces on structures and bodies in motion, fluids at rest and in motion, heat and electricity. Designed as a course in pre-apprenticeship training program, but open to anyone desiring a basic understanding of mechanical principles. (45-0) O

MT 191 Machine Controls I 3 Sem Hrs
Designed for the student with a mechanical background who needs the essentials for diagnosing the control panel of production machinery. Combines the fundamentals of AC/DC circuits and the theory of hydraulics as they are used in basic machine control mechanisms. (45-0) O

MT 192 Machine Controls II 3 Sem Hrs
Prerequisite: MT 191. Special emphasis placed on diagnostic troubleshooting techniques. Primary objective of the course is to enable maintenance personnel to discuss machine functions (or malfunctions) with machine and control system designers. The course will also benefit toolmakers and machine builders to understand the overall operation of the complex machinery they build or assemble. (45-0) O

MT 220 Introduction to Fluid Power 3 Sem Hrs
Prerequisite: MTH 111. The study of fluids, pumps and compressors, valves, cylinders, motors, filters and other components commonly used in fluid power and control of machine tools, construction and agricultural equipment. Students will have the opportunity to learn the basic concepts through mathematics, and graphic symbols to design and troubleshoot circuits. A design project is required. (30-30) FW

MT 221 Materials and Metallurgy 3 Sem Hrs
An introductory course in physical metallurgy in contrast to extra-active metallurgy. Physical metallurgy is the composite science concerned with the chemical composition, physical properties, mechanical treatment, thermal treatment, and applications of metals. Intended to assist technicians and others in making their selections of metals and alloys for industrial applications. (30-30) FW

MT 222 Pneumatic Power and Control 3 Sem Hrs
Prerequisite: MT 220 or equivalent experience. A study of compressed air power utilized in industrial and commercial applications. Topics to be covered will include compressors, valves, actuators, air conditioners, piping layout, ANSI symbols and ladder diagramming. Students will be required to design and build a sequence circuit and size air valves. (30-30) O

MT 224 Fluid Power Circuits and Systems 3 Sem Hrs
Prerequisite: MT 222 or equivalent experience. Open-center and closed-center circuits. Techniques and selection criteria for design of pressure and flow control circuits. Logic and sequencing systems based on moving-part-logic controls, fluidic controls and electrical controls. Boolean Algebra and closed-loop systems. Designed to meet needs of engineers, designers, hydraulic/pneumatic equipment sales and machine personnel. (30-30) O

MT 232 Thermodynamics 3 Sem Hrs
Prerequisite: PHY 111 or PHY 211. A beginning course in industrial thermodynamics to prepare the student for work in the petroleum, chemical, and power generation industries. Conductive, convective, and radiative heat transfer are covered, as well as heat exchanger design and sizing. Plant heat balances and flow rates are discussed in detail. Room heating and air conditioning are also covered. (45-0) O

Prerequisite: MTH 111 or instructor permission. A study of the sources of energy, the means for converting these sources into useful work and the environmental implications of the energy conversion process. Predictions of future energy use. (15-0) O

Prerequisite: PHY 101 and MTH 103 or equivalent. Study of forces acting on rigid bodies, including applications of these forces to practical design problems. Concepts of stress in tension, compression, torsion, and shear in various combinations are developed and utilized. (45-0) W

Prerequisite: PHY 111, MTH 113, and CPS 165 or 140. The CPS course may be taken concurrently. Study of forces in 2-D and 3-D acting on particle systems and rigid bodies. Equilibrium laws, centroids, center of gravity, moment of inertia, translation and rotation motion. Particle and rigid body dynamics: kinetics, work/energy, impulse/momentum concepts. Problem solution by hand and by computer. (60-0) F

Prerequisite: MT 221 and 251, CAD 114, MTH 161 and ENG 113.
Mathematical and computer methods used to determine stress, strain, load and deflection relationships of structures and machine elements. Bars in tension, compression or shear, beams in bending or deflection, column design, welded and riveted joints, and combined stresses. Formal reports of lab experiments required. (30-30) W

Prerequisite: PHY 101 and DRF 107. A study of mechanical motion concepts. Hand calculator, graphical, and computer methods used to calculate displacements, velocities and accelerations. Mechanisms studied: multiple member rigid links, cams, belts, chains, gears, and special motion mechanisms. (30-30) FE WD

Prerequisite: MT 205 and 252, DRF 107. Hand calculator and computer methods are used to solve for the dimensions and allowable loads of machine elements and power trains. Elements studied are shafts, keyed and bolted couplings, bearings, gear trains, V-belt and chain drives, clutches and brakes, springs and fasteners. Formal computer programming and final design project required. (30-30) S

Prerequisite: MTH 111 or instructor permission. A study of the sources of energy, the means for converting these sources into useful work and the environmental implications of the energy conversion process. Predictions of future energy use. (15-0) O

MT 290-299 Special Projects in Mechanical Technology

Mathematics Courses ♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Course prerequisites are stated in terms of Delta courses or the number of years of high school mathematics, and are intended to insure that students choose the appropriate mathematics course. Individuals may have a mathematics background equivalent to a stated prerequisite in which case they should consult a counselor for assistance in evaluating equivalencies. Any student who feels that circumstances warrant waiving a prerequisite should consult the Mathematics and Computer Science Division Chair for approval. It is recommended that a grade of "C" or better be earned in any mathematics course used as a prerequisite for another mathematics course.

Provides a foundation in arithmetic and a preparation for algebra. The four fundamental operations on positive and negative integers, fractions, and decimals are covered. Also included are percentages, the use of formulas, ratios and proportions. (30-0) A

Prerequisite: MTH 107 or 111. Geometry topics include angles, triangles, polygons, circles, prisms, cylinders, and cones. Trigonometry topics include right-triangle trigonometry, radian measure, oblique-triangle trigonometry, and graphs of trigonometric functions. (60-0) E F W

Prerequisite: MTH 100. Natural numbers, integers, first degree equations, and inequalities, special products, factoring, fractional equations, graphs and linear systems, radicals, exponents, quadratic equations. (Equivalent to first year high school algebra.) (45-0) A

Prerequisite: MTH 107 or one year of high school algebra. Study of two and three dimensional nomenclature with emphasis on applications involving angles, triangles, parallelograms, congruency and similarity of polygons, circles, spheres, prisms, pyramids, and cones. Designed for those persons who have not had a high school geometry course and plan to take trigonometry or other advanced math courses. (30-0) DW

Prerequisite: MTH 107 or one year of high school algebra. Numeration systems, sets and their properties, classification of number systems from whole numbers to the rational numbers to real numbers, the operations on these classifications and the properties of the operations arithmetical algorithms. (60-0) A

Prerequisite: MTH 107 or one year of high school algebra; MTH 109 advisable. Applications oriented, for the technical student. Topics covered include; basic algebraic operations, linear equations, functions graphing, determinants, exponents and radicals, quadratic equations, variation, proportion and variation, common and natural logarithms, and exponential equations. (60-0) E F W

Prerequisite: MTH 111 or MTH 119 or two years of high school algebra
Application oriented for the technical student. Topics covered include trigonometric functions with their graphs, solution of triangles, vectors, complex numbers, conics, inverse trigonometric functions, and trigonometric identities and equations. A calculator having at least trigonometric and inverse trigonometric functions is required. (60-0) EW

Prerequisite: MTH 100 or equivalent arithmetic skills. A brief review of Roman numerals, fractions, decimals, percentages, and ratios. Included is a study of the metric system and the Apothecaries' system with applications in converting from one system to another. Emphasis is on calculations involved in preparing solutions and giving medications. (30-0) A

Prerequisite: MTH 107 or one year of high school algebra. Topics include fundamental concepts of algebra, graphs, systems of linear equations, quadratic equations, algebraic fractions, exponents, radicals, and logarithms. (60-0) A

Prerequisite: MTH 119 or two years of high school algebra. Topics include mathematical modeling (polynomial and rational functions; the graphs and applications; and arithmetic and geometric progressions); systems of equations and inequalities, linear programming, and an introduction to probability (binomial distributions and graphing qualitative data). Computer applications of some topics will be covered. A calculator having at least exponentiation and logarithmic functions is required. (Those students planning to take MTH 161 should take MTH 151 rather than MTH 120.) (45-0) A

Prerequisite: MTH 119 or MTH 111 or two years of high school algebra. MTH 109 or another geometry course is recommended. Topics covered include trigonometric functions and their graphs, solution of triangles, identities, trigonometric equations, inverse trigonometric functions, and complex numbers. A calculator having at least trigonometric and inverse trigonometric functions is required. (45-0) A

MTH 124 Pre-Apprenticeship Math**3 Sem Hrs**

This is the first of a two-course sequence (other course MT 125) covering concepts commonly found on pre-apprentice examinations. Topics covered include: arithmetic computations, signed numbers, algebraic substitution, order of operations, algebraic fractions, linear equations, world problems, geometric essentials including a strong emphasis on nomenclature, and the solution of right triangles.

NOTE: This course may also be appropriate for individuals who are not preparing for a pre-apprenticeship examination, but desire a survey of the topics listed. The course does not satisfy the requirements of any other mathematics course. (45-0) O

MTH 125 Practical Contemporary Mathematics**3 Sem Hrs**

Prerequisite: MTH 107. Introduces selected areas of contemporary mathematics in familiar everyday settings. The areas introduced are management science, statistics, social choice, the geometry of size and shape, and mathematics of computer science. (40-0) O

MTH 151 Pre-Calculus Mathematics**4 Sem Hrs**

Prerequisite: At least three years of high school-college preparatory mathematics including trigonometry or both MTH 119 and 121. MTH 121 may be taken concurrently with instructor approval. Designed primarily for students planning to take calculus. Topics include a study of the elementary functions, equations and inequalities, review of trigonometry, matrices and determinants, and analytic geometry. A GRAPHING CALCULATOR IS REQUIRED. (60-0) A

MTH 160 Calculus for the Social and Managerial Sciences**4 Sem Hrs**

Prerequisite: MTH 120 or 151 or a least three and a half years of high school-college preparatory mathematics. Designed to satisfy the mathematics requirements for students majoring in business or social sciences. Topics include graphing, differentiation and integration of functions (algebraic, exponential, and logarithmic), and the use of these techniques within business and economic models. A CALCULATOR HAVING AT LEAST EXPONENTIAL AND LOGARITHMIC FUNCTIONS IS REQUIRED. (60-0) A

MTH 161 Analytic Geometry and Calculus I**4 Sem Hrs**

Prerequisite: Four years of high school-college preparatory mathematics or MTH 151. Topics include functions, graphs, limits, continuity, derivatives and their applications and integrals and their applications. (60-0) A

MTH 162 Analytic Geometry and Calculus II**4 Sem Hrs**

Prerequisite: MTH 161. Topics include differentiation and integration of exponential, logarithmic, trigonometric, and hyperbolic functions; integration techniques; indeterminate forms; improper integrals; infinite series; polar coordinates; and parametric equations. (60-0) A

MTH 208 Elementary Statistics**3 Sem Hrs**

Prerequisite: MTH 119 or two years of high school algebra. Elementary statistical concepts studied include frequency distributions, measures of central tendency and dispersion, probability, confidence intervals, hypotheses testing, linear correlation and regression, chi-square, ANOVA. A calculator having basic statistical functions is required. (45-0) A

MTH 211 Applied Calculus**5 Sem Hrs**

Prerequisite: MTH 113. Application oriented, for the technical student. Conics, differentiation and integration of algebraic, trigonometric, logarithmic and exponential functions. Emphasis on the application of the derivative and integral. (75-0) O

MTH 231 Introduction to Quality Engineering Statistics I**3 Sem Hrs**

Prerequisite: MTH 119. An introduction to statistical concepts including descriptive methods, principles of probability, discrete probability distributions, continuous distributions, functions, sampling plans and sampling distributions, hypothesis testing of means and proportions, and confidence intervals. (45-0) O

MTH 232 Introduction to Quality Engineering Statistics II**3 Sem Hrs**

Prerequisite: MTH 231. Continuation of topics presented in Introduction to Quality Engineering Statistics I. Topics include: analysis of variance, control charts, sampling plans, product reliability master plan design and analysis, chi-square contingency table test, correlation analysis, simple and multiple linear regression analysis, design of experiments, and non-parametric statistics. (45-0) O

MTH 233 Taguchi Methods I**1 Sem Hr**

Prerequisites: MTH 231 and MFG 244. Taguchi Methods I is intended as an overview of the Taguchi method of experimental design. The course will review the three major phases of the Taguchi method: system design; parameter design; and tolerance design. Credit may be earned in MTH 233 or MFG 246 but not both. (15-0) O

MTH 234 Taguchi Methods II**3 Sem Hrs**

Prerequisite: MTH 233 and MFG 244. Taguchi Methods II is intended as an in-depth study of the Taguchi methods of experimental design. Topics include: loss function; parameter design for minimum, nominal, and maximum targets; tolerance design under noise conditions. A Taguchi D.O.E. project is required. Credit may be earned in MTH 234 or MFG 247 but not both. (45-0) O

MTH 261 Analytic Geometry and Calculus III**4 Sem Hrs**

Prerequisite: MTH 162. Topics include solid analytical geometry, vectors, partial differentiation, multiple integration, line and surface integrals, and Green's and Stoke's theorems. (60-0) A

MTH 263 Introduction to Linear Algebra**3 Sem Hrs**

Prerequisite: MTH 261. Topics include matrices, determinants, linear systems, vector spaces, linear transformations, eigenvalues, and eigenvectors. (45-0) A

MTH 264 Introduction to Ordinary Differential Equations**3 Sem Hrs**

Prerequisite: MTH 261. Topics include techniques for solving first and higher order linear differential equations, systems of linear differential equations, solutions using power series, and introductions to numerical methods and Laplace transforms. Applications in science and engineering will be used throughout the course. (45-0) A

MTH 280-289 Restricted Enrollment Mathematics Courses

Courses offered at the request of various groups with enrollment limited to the specific request.

MTH 290-299 Special Projects in Mathematics**Music Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦♦♦****MUS 100 Elements of Music****3 Sem Hrs**

Rudiments of music, including notation, clefs, keys, syllables, and rhythm. Elementary conducting technique. Planned to meet the basic musical needs of prospective elementary teachers. Also is a basic course in beginning theory for anyone interested in music. Recommended to be taken concurrently with MUS 131. (45-0) A

MUS 101 Theory—Basic Music I**5 Sem Hrs**

A comprehensive course for potential music majors, minors, or others electing the course seeking a base for professional development. Suitable for those with previous knowledge of keys, notation, rhythm and clefs. Five weeks of intensive training in fundamentals of music theory followed by aural theory, written theory and keyboard harmony. (75-0) F

MUS 102 Theory—Basic Music II**5 Sem Hrs**

Prerequisite: MUS 101. Continuation of MUS 101, with an emphasis on writing, chord progressions, form, ear-training and keyboard skills. (75-0) W

- MUS 103 Composing Music I** 1 Sem Hr
Prerequisite: MUS 101 (may be taken concurrently). An introduction to composing music through principles applicable to any style including: How to use melody, harmony, form, color and rhythm. Melody writing is emphasized. A project will be used to develop skills. (15-0) F
- MUS 104 Composing Music II** 1 Sem Hr
Prerequisite: MUS 103. Continuation of composing for various instruments and small group combinations: duet, trio and quartet writing emphasized. Principles of arranging and transcribing will be included. Project will be required. (15-0) W
- MUS 105 String Ensemble** 1 Sem Hr
Prerequisite: Experience in high school orchestra or equivalent. (0-30) O
- MUS 111 Music Literature I** 3 Sem Hrs
Acquaints the students with the fundamentals of listening. Symphonic music is emphasized. (45-0) A
- MUS 112 Music Literature II** 3 Sem Hrs
Prerequisite: MUS 111 or permission of instructor. Continued study of instrumental music (concerto small ensemble). Promotes an understanding of and for vocal forms (Opera, art, song, large choral work, i.e., oratorios, masses). (45-0) FW
- MUS 115 Black Music** 2 Sem Hrs
Acquaints students with Black Music with the following course objectives: To depict the historical and sociological conditions under which Black Music developed; To place Black Music in its proper perspective within the field of music in America; To relate Black Music as an expression of attitude among Blacks regarding their living conditions and experiences, as slaves and as "freeman" in relationship to the Black life style; To trace the origin and development of Black Music through the spiritual, the blues, jazz, rock'n roll, and the works of "serious" Black composers. (30-0) O
- MUS 122 Beginning Wind Class** 2 Sem Hrs
Class instruction in brass and woodwind instruments. Instruction in one or more wind instruments per semester. This is a course for adult beginners who desire to have a reasonable knowledge of and ability to play one or more wind instruments. This class will be taught as a beginning band. Each member will be expected to practice at least two hours per week. At the completion of study on a particular instrument, the student should be able to produce a reasonable characteristic tone, play major and minor scales and arpeggios and perform adequately in a beginning band. (30-0) O
- MUS 123 Beginning String Class** 2 Sem Hrs
Class instruction is stringed instruments, i.e., violin, viola, cello, and string bass. A course for adult beginners to be taught as a beginning string class. Each member will be expected to practice at least two hours per week. At the completion of study on a particular instrument, the student should be able to produce a reasonably characteristic tone, play major scales and arpeggios, and perform adequately in a beginning orchestra. (30-0) O
- MUS 131 Piano I** 2 Sem Hrs
Beginning class instruction leading to the ability to play melodies and accompanying chord patterns and rhythms. (15-15) FW
- MUS 132 Piano II** 2 Sem Hrs
Prerequisite: MUS 131 or permission of the instructor. Continuation of Piano I. (15-15) O
- MUS 133 Piano III** 2 Sem Hrs
Prerequisite: MUS 132 or permission of instructor. Continuation of Piano II. (15-15) O
- MUS 134 Keyboard Accompanying** 2 Sem Hrs
Prerequisite: MUS 100 and MUS 131. Designed to develop specific musical skills as well as sensitivity to ensemble performance. Literature will represent all historical periods and styles in both the secular and sacred genres. Sightreading, transposing, harmonizing, improvising and modulating will be stressed as they relate to specific needs to accompanists. (30-0) O
- MUS 135 Guitar I** 2 Sem Hrs
Tuning is covered in three ways: the basic chords in first position, the basic strums, and the finger styles. The chords and the right hand styles are applied to both popular and traditional music. Students will be expected to provide their own instruments. (0-30) FW
- MUS 136 Guitar II** 2 Sem Hrs
Prerequisite: MUS 135 or permission of instructor. A continuation of Guitar I which covers chords in higher positions, including bar chord and chord forms. Popular music is used extensively, along with short classical and flamenco pieces. Students will be expected to provide their own instruments. (0-30) W
- MUS 137 Guitar III** 2 Sem Hrs
Prerequisite: MUS 136 or permission of instructor. A continuation of Guitar II. Advanced finger styles and transposition will be covered. Classical and popular music will be used. Students will be expected to provide their own instruments. (0-30) O
- MUS 138 Music Voice Class** 2 Sem Hrs
Studies breathing, resonance, diction and interpretation of various styles of vocal music. (30-0) W
- MUS 145 Elements of Conducting** 2 Sem Hrs
Instruction in baton technique and basic choral conducting procedures. Experience in actual conducting—both instrumental and vocal. Practice in score reading and study of transposing instruments. Investigation of problems of intonation, balance, ensemble, tempo and tone quality as encountered in rehearsal. The class itself will be used as a performing group in teaching the above whenever possible. In some instances, recordings will be used to illustrate certain points. (30-0) O
- MUS 150 Ensemble Experience I** 1 Sem Hr
May be taken to document choral ensemble activity in groups other than Delta College credit granting choirs. Approval of instructor required before participation. Approved documentation must be submitted to instructor at the end of semester's activity. (30-0) FWS
- MUS 151 Ensemble Experience II** 1 Sem Hr
Prerequisite: MUS 150. May be taken to document choral ensemble activity in groups other than Delta College credit granting choirs. Approval of instructor required before participation. Approved documentation must be submitted to instructor at the end of semester's activity. (30-0) FWS
- MUS 154 CHOIR I** 1 Sem Hr
Previous high school and/or church choir experience is recommended. Directed toward the study of representative choral music and public performances in college and community activities. Additional choir in sequence: MUS 155, 254, 255. (0-45) FW
- MUS 155 Choir II** 1 Sem Hr
Continuation of Choir I. (0-45) FW
- MUS 156 Jazz Choir I** 1 Sem Hr
Prerequisite: Audition/permission prior to semester registration. Performance group specializing in vocal jazz. Solo, small group, and ensemble numbers will be performed by members. Other idioms, such as blues, rock, and theater pieces will also be performed. (0-45) FW
- MUS 157 Jazz Choir II** 1 Sem Hr
Continuation of MUS 156. (0-45) FW
- MUS 160 Concert Band I** 1 Sem Hr
Prerequisite: Band experience in high school or the equivalent. (0-30) O
- MUS 161 Concert Band II** 1 Sem Hr
Continuation of Concert Band I. (0-45) O
- MUS 162 Orchestra** 2 Sem Hrs
Prerequisite: Audition or permission of instructor. Full orchestral experience involving the study and performance of music ranging from show tunes and theater music to standard masterpiece repertoire. Participation in the orchestra is open to all who qualify as serious performers on their instruments, i.e., high school students, college students, or interested adults living in surrounding communities. (0-45) O

MUS 163 The Jazz Experience 3 Sem Hrs
Development of jazz from Gospel Music and Black secular roots. A stylistic history will be presented scanning Dixieland Jazz, Big Band Jazz, Combo Jazz of the last 20 years, and contemporary Big Band Electric Jazz. The course will include a short history of rock and roll. This is primarily a listening course with topical lectures designed for the general student, however, students with advanced musical skills will also be able to learn some additional techniques of improvisation and arranging. (45-0) O

MUS 165 Chamber Choir 1 Sem Hr
Prerequisite: Selected through audition. Auditions prior to the semester registration. Performing group available with frequent public appearance potential. (0-30) O

MUS 166 Stage Band 1 Sem Hr
Prerequisite: High school experience in band or instructor's permission. This ensemble offers performance experience in big band-jazz, swing and pop styles. Some instruction in improvisation is included. The group performs for several on-campus and off-campus concerts each semester. (0-15) O

MUS 167 Flute Choir 1 Sem Hr
Prerequisite: Two years of band experience or equivalent. Consultation with the director will determine eligibility for the group with regard to the inclusion of additional wind or string instruments. (0-30) O

MUS 168 Gospel Choir 2 Sem Hrs
Specializes in the performance of Gospel and Soul music. Students will become familiar with both types of music and participate in performances on and off campus. (30-0) FW

MUS 201 Theory-Basic Music III 4 Sem Hrs
Prerequisite: MUS 102 or permission of instructor. Second-year music theory for music majors involving sophomore level aural and written theory with keyboard. (60-15)

MUS 202 Theory-Basic Music IV 4 Sem Hrs
Prerequisite: MUS201. Second-year music theory for music majors involving sophomore level aural and written theory with keyboard. (60-15) W

MUS 211 Music History I 3 Sem Hrs
Prerequisite: MUS 112 or permission of instructor. An in-depth study of music of ancient times to the Seventeenth Century. Required for music majors. (45-0) F (every two years)

MUS 212 Music History II 3 Sem Hrs
Prerequisite: MUS 112 or 211 or permission of instructor. A continuation of Music 211 with a study of music from the Seventeenth Century to present with emphasis on form and style. Required for music majors. (45-0) W (every two years)

MUS 231 Techniques and Materials of Piano 3 Sem Hrs
Prerequisite: one year theory or permission of instructor. This course concentrates specifically on the problems of developing strong piano techniques representative of beginning into intermediate piano study. In addition to the texts, the literature of the piano will also be studied extensively. (45-0) F

MUS 232 Advanced Techniques and Materials of Piano 3 Sem Hrs
Prerequisite: MUS 213 or permission of instructor. The course concentrates specifically on the problems of developing strong piano techniques from intermediate study to very advanced study. The students, themselves, will perform and be critiqued by the instructor or visiting artist in master class format. In addition to the texts, the literature of the piano will also be studied extensively. (45-0) W

MUS 238 Voice II 2 Sem Hrs
Prerequisite: MUS 138 or instructor's consent. Continuation of work begun in MUS 138-Voice I, work on fundamentals and skills of singing, through the study and performance of songs in the English, American, Italian and German Literature. (30-0) O

MUS 250 Ensemble Experience III 1 Sem Hr
Prerequisite: MUS 151. May be taken to document choral ensemble activity in groups other than Delta College credit granting choirs. Approval of instructor required before participation. Approved documentation must be submitted to instructor at the end of semester's activity. (30-0) FWS

MUS 251 Ensemble Experience IV 1 Sem Hr
Prerequisite: MUS 250. May be taken to document choral ensemble activity in groups other than Delta College credit granting choirs. Approval of instructor required before participation. Approved documentation must be submitted to instructor at the end of semester's activity. (30-0) FWS

MUS 254 Choir III 1 Sem Hr
Continuation of Choir II. (0-45) FW

MUS 255 Choir IV 1 Sem Hr
Continuation of Choir III. (0-45) FW

MUS 256 Jazz Choir III 1 Sem Hr
Continuation of MUS 157. (0-45) FW

MUS 257 Jazz Choir IV 1 Sem Hr
Continuation of MUS 256. (0-45) FW

MUS 260 Concert Band III 1 Sem Hr
Continuation of Concert Band II (0-45) O

MUS 261 Concert Band IV 1 Sem Hr
Continuation of Concert Band III. (0-45) O

ALL APPLIED MUSIC COURSES. Prerequisite: Permission of music department. Private instruction/lessons provided and a minimum number of hours of weekly practice is required. A jury examination will be held at the end of each semester.

MUS 171 Applied Music Piano Minor—Freshman 1 Sem Hr

MUS 172 Applied Music Piano Minor—Freshman 1 Sem Hr

MUS 271 Applied Music Piano Minor—Sophomore 1 Sem Hr

MUS 272 Applied Music Piano Minor—Sophomore 1 Sem Hr

MUS 173 Applied Music Instrumental Minor—Freshman 1 Sem Hr

MUS 174 Applied Music Instrumental Minor—Freshman 1 Sem Hr

MUS 273 Applied Music Instrumental Minor—Sophomore 1 Sem Hr

MUS 274 Applied Music Instrumental Minor—Sophomore 1 Sem Hr

MUS 175 Applied Music Voice Minor—Freshman 1 Sem Hr

MUS 176 Applied Music Voice Minor—Freshman 1 Sem Hr

MUS 275 Applied Music Voice Minor—Sophomore 1 Sem Hr

MUS 276 Applied Music Voice Minor—Sophomore 1 Sem Hr

MUS 181 Applied Music Piano Major—Freshman 2 Sem Hrs

MUS 182 Applied Music Piano Major—Freshman 2 Sem Hrs

MUS 281 Applied Music Piano Major—Sophomore 2 Sem Hrs

MUS 282 Applied Music Piano Major—Sophomore 2 Sem Hrs

MUS 183 Applied Music Instrumental Major—Freshman 2 Sem Hrs

MUS 184 Applied Music Instrumental Major—Freshman 2 Sem Hrs

MUS 283 Applied Music Instrumental Major—Sophomore 2 Sem Hrs

MUS 284 Applied Music Instrumental Major—Sophomore 2 Sem Hrs

MUS 185 Applied Music Voice Major—Freshman 2 Sem Hrs

MUS 186 Applied Music Voice Major—Freshman 2 Sem Hrs

MUS 285 Applied Music Voice Major—Sophomore 2 Sem Hrs

MUS 286 Applied Music Voice Major—Sophomore 2 Sem Hrs

MUS 290-299 Special Project in Music

Nanny Courses ♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

NA 112	Creative Activities for/with Children	3 Sem Hrs
(NA 112, 113, 114, 118, and 160 to be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) Identification of a wide range of resources to assist in planning, developing, and presenting creative activities for children. Emphasis will be placed on age, developmental, and social appropriateness of the activities. (45-0) FD		

NA 113	Building Effective Relationships with Children	3 Sem Hrs
<p>(NA 112, 113, 114, 118, and 160 to be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) Designed to give students basic skills to develop positive relationships with children. Emphasis will be on recognizing and implementing behavior management techniques, identifying components of communication, and applying effective methods to help children deal with self-concept, feelings, conflict, and cooperation. (45-0) FD</p>		

NA 114	Child Development Survey I Birth - Six Years	3 Sem Hrs
<p>(NA 112, 113, 114, 118, and 160 to be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) Designed to develop skills to recognize and identify physical, intellectual and social traits in children from birth through early childhood, whether abnormal or normal and how to effectively intervene if necessary. A student must earn a grade of C (2.0) or better in this course to obtain a certificate or associate degree. (45-0) FD</p>		

NA 115	Child Development Survey II	3 Sem Hrs
	Age 6 - Adolescence	
<p>(NA 115, 116, 119, 120, 161 and a selected elective to be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) Designed to develop skills in order to identify and apply the elements of physical, intellectual, moral, emotional, and social development of children from six years of age through adolescence. A student must earn a grade of C (2.0) or better in this course to obtain a certificate or associate degree. (45-0) WD</p>		

NA 116 Study of Family Dynamics **3 Sem Hrs**
(NA 115, 116, 119, 120, 161 and a selected elective to be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) An overview of models of family relationships in order to identify similarities and differences, sex roles and stereotyping, the effect of changes in society, and the relationship of the nanny to a variety of family situations. (45-0) WD

NA 118 Physical Care of Infants and Children 3 Sem Hrs
(NA 112, 113, 114, 118, and 160 to be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) An introduction to the basic knowledge of infant and child care in the areas of physical care, health care, home safety, poison control, basic first aid, and CPR for infants, children and adults. A student must earn a grade of C (2.0) or better in this course to obtain a certificate or associate degree. (45-0) F

NA 119 Nutrition for Young Children **3 Sem Hrs**
(NA 115, 116, 119, 120, 161 and a selected elective will be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) Information will be provided on basic nutrition for all ages and an awareness of ethnic, religious, or health considerations in the preparation of food. Demonstrations will be included on home-making skills related to the care of children's clothing, food preparation and kitchen safety. (45-0) WD

NA 120 Professional Development for Nannies 3 Sem Hrs
(NA 115, 116, 119, 120, 161 and a selected elective to be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) Information will be provided on basic etiquette appropriate to the types of situations a nanny may experience and an awareness of the personal skills and professional preparation necessary to employment as a nanny. (45-0) WD

NA 160 Practicum As a Nanny I 2 Sem Hrs
(NA 112, 113, 114, 118, and 160 to be taken concurrently OR WITH PERMISSION OF PROGRAM COORDINATOR.) Provides actual experience with infants, toddlers, young children, and special needs children. Emphasis will be on child care and interpersonal skills as they would relate to a home-setting. Must earn a grade of C (2.0) or better to obtain a certificate or associate degree. (15-70) FD

NA 161 Practicum As a Nanny II 1 Sem Hr
Prerequisite: NA 160 (NA 115, 116, 119, 120, and 161 and a selected elective will be taken experience of working with infants, toddlers, and young children. Provides opportunities to demonstrate competencies in child care, health care, and interpersonal skills, as well as planning appropriate activities for various ages. A student must earn a grade of C (2.0) or better to obtain a certificate or associate degree. (10-50) WD

Nursing Assistant/Home

Health Aide Course ♦♦♦♦♦

NHA 111 Nursing Assistant/Home Health Aide 9 Sem Hrs
Theory and clinical experience opportunities designed to prepare students to work with patients in long-term/acute-care facilities and home health care agencies. Upon completion of course, students will be eligible to take competency evaluation tests (written and skills) leading to state certification as a Nursing Assistant (75-180) D

Nursing Courses ♦♦♦♦♦

NUR 100 Introduction to Health Care: Nursing 2 Sem Hrs
An overview of the historical background and current issues in the health care system with a focus on nursing aspects. Includes descriptions of function, roles, and responsibilities of members of the health care team in relationship to the recipients of health care. Basic math skill proficiency is required for successful completion. Course may be waived for currently licensed LPNs. (30-0) A

NOTE: the following courses are subject to the Nursing Progression and Retention Policies.

NUR 101 Nursing I 3 Sem Hrs
Prerequisite: Admission to Nursing Program. The principles of the biological, physical, and social sciences are used as the foundation to introduce the principles of professional nursing practice as defined in the Nursing Practice Act of Michigan. The legal, historical, and role expectations in nursing are studied and applied. The nursing process forms the structure for developing specific nursing skills which are practiced in a simulated setting. (Class meets for five weeks.) D

NUR 102 Nursing 2 **3 Sem Hrs**
Prerequisite: NUR 101 with C (2.0) minimum grade. Introduces the student to the study and practice of selected principles and skills required in the practice of nursing. The nursing process is used in the acquisition and practice of selected skills. Opportunity to practice the skills provided in a simulated clinical setting. (Class meets for five weeks.) D

NUR 103 Nursing 3 **3 Sem Hrs**
Prerequisite: NUR 102 with C (2.0) minimum grade. Provides the student with guided learning experiences to develop beginning competence in planning, implementation, and evaluation of selected nursing principles. Opportunity to practice the principles and skills provided in both simulated and actual patient care settings. (Class meets for five weeks.) D

NUR 105 Nursing 5 **3 Sem Hrs**
Prerequisite: NUR 150 with C (2.0) minimum grade. Introduction to basic care of the childbearing family. Focus upon the antepartum, uncomplicated labor/delivery, postpartum and normal newborn experience.

Opportunity to apply nursing process and nursing diagnosis techniques in selected health care settings. (Class meets for five weeks. Some "on call" or evening experiences may be required.) D

NUR 106 Nursing 6 3 Sem Hrs

Prerequisite: NUR 150 with C (2.0) minimum grade. An introduction to care of the child and family experiencing illness/hospitalization. Focus upon principles of growth and development with emphasis upon biopsychosocial needs of clients from infancy through adolescence. Clinical opportunities to practice nursing process and nursing diagnosis skills in selected health care settings. (Class meets for five weeks) D

NUR 120 Medication Administration 3 Sem Hrs

An overview of drug classifications, dosages and responsibilities of administration of prescribed and "over-the-counter" drugs. Designed for the beginning health occupation student and anyone who wishes to be a more knowledgeable consumer of health care services. (45-0)

NUR 150 Basic Nursing Care of Adult Client 9 Sem Hrs

Prerequisite: NUR 103 with C (2.0) minimum grade. Focus on basic nursing care of the adult patient/client. Commonly occurring medical/surgical health care problems related to sensory and motor function, gaseous exchange and transportation of substances to and from the cells, alterations in endocrine, musculoskeletal, immunologic, genitourinary, gastrointestinal, gynecological, integument and neurologic function will be discussed. Will also include care of the adult experiencing surgical interventions for common health problems. (Some "on call" and/or evening experiences may be required). (75-180) DFW

NUR 161 Transition - Basic Principles of Adult Care 2 Sem Hrs

Prerequisite: Current LPN licensure, 1 year work experience and admission to Nursing Program. An opportunity to solidify knowledge related to basic nursing concepts. Emphasis on Gordon's functional health patterns, aseptic technique, fluid and electrolyte regulation, acid-base balance, medication calculations and administration and nutritional requirements. The nursing process will serve as the framework for learning. (30-0) O

NUR 162 Role and Function of the RN 2 Sem Hrs

Prerequisite: Current LPN licensure, 1 year work experience and admission to Nursing Program. To be taken concurrently with NUR 161. Focus is the role and function of the registered nurse. A background for nursing today will be established through discussion of the history of nursing, nursing theorists and social policy. A framework for functioning in the ever changing health care environment will be developed by studying the legal implications and ethical issues that affect the profession. Use of the nursing process will occur throughout. The role of the RN will be identified through study of various settings in which the RN may be functioning. The importance of involvement in professional organizations and other community activities will be stressed. (30-0) O

NUR 163 Advanced Principles of Adult Care for the LPN 5 Sem Hrs

Prerequisite: NUR 162 with C (2.0) minimum grade. Application of the nursing process to care for the adult patient. Commonly occurring health care problems related to sensory and motor function, gaseous exchange, transportation of substances to and from the cells, alterations in endocrine, musculo-skeletal, immunologic and neuro function will be studied. Related clinical experiences will be provided in community health care agencies. (45-90) O

NUR 164 Maternal/Child Health for the LPN 5 Sem Hrs

Prerequisite: NUR 163 with C (2.0) minimum grade. Application of the nursing process to the care of the growing family unit. The student will provide comprehensive care to mother and child with emphasis on biopsychosocial needs of clients and family. Related clinical experiences will be provided in community health care agencies. (60-45) O

NUR 209 Psychosocial Nursing 3 Sem Hrs

Prerequisite: NUR 150 with C (2.0) minimum grade. An opportunity to apply pertinent theory and nursing intervention skills in care of patients and families experiencing emotional stress. Clinical practice in selected care settings with medical/surgical patients and clients in mental health agencies. (Class meets for five weeks) D

NUR 241 Human Sexuality in Health Care 2 Sem Hrs

Designed primarily for individuals who have had experience and/or education in a health care field. Focus upon characteristics of human sexuality through the life cycle. Designed to increase health care workers' sensitivity, comfort and clinical skills when dealing with the various aspects of sexuality in therapeutic situations. (30-0) O

NUR 250 Nursing Care and Management Throughout the Health Continuum 9 Sem Hrs

Focus on concepts, principles and content related to the delivery of nursing care to clients experiencing multiple acute/chronic health problems. Opportunities to apply the nursing process, to use nursing diagnostic skills and to be involved in complex decision making in a variety of settings will be available. The change in role from student to graduate nurse will be explored. Concepts related to the profession and multi-setting health care delivery systems will be included. (Some "on call" and/or evening assignments may be required) (60-240)

NUR 260 Pathophysiology 4 Sem Hrs

Prerequisite: Open to licensed nurses and clinical student nurses. A review of the normal anatomy and physiology of all body systems with an emphasis upon pathophysiological changes caused by disease and illness. Focus on nursing assessment techniques, information related to diagnostic studies, and patient responses to various treatment modalities. (60-0) O

NUR 282 Major Health Problems of Older Adult 2 Sem Hrs

Prerequisite: Open to licensed nurses/student nurses/other health care personnel or permission of instructor. Focuses on major health problems identified as critical for the frail elderly in the health care system. Mobility impairment, sensory losses, confusion, incontinence, activity intolerance, and the effects of diminished social support systems will be covered. Emphasis will be on nursing interventions which promote the highest possible level of independent function and wellness. (30-0)

NUR 285 Clinical Pharmacology 3 Sem Hrs

Recommended for RNs seeking BSN degrees and students enrolled in clinical nursing courses. Discussion of major disease states and how various categories of drugs are used in the treatment of these disease states. Focus on the pharmacodynamics/pharmacokinetics/adverse effects/nursing applications related to each drug will be discussed. (45-0)

NUR 290-299 Special Projects in Nursing

Office Systems Education Courses ♦♦♦♦♦

OSE 108 Personal Keyboarding 1 Sem Hr

Introduces the touch system of keyboarding and basic word processing functions, features, and commands necessary to produce letters and reports on the computer. Outside lab assignments are required. (15-0) FW

OSE 116 Introduction to the Medical Office 2 Sem Hrs

Introduces the pegboard system including day sheets, patient ledgers and receipts; emphasizes the accurate recording of charges, payments and adjustments. Also introduces basic accounting procedures including journalizing, posting, banking, payroll, and preparation of the income statement and balance sheet. (30-0) FWD

OSE 145 Integrated Office Systems 4 Sem Hrs

Prerequisite: OSE 170 or demonstrated typing skill. Office systems technology will be introduced through the study of terminology, employee roles, electronic equipment, office environments, and electronic office procedures. Integrated office applications will be studied through the use of word processing, database, spreadsheet and operating system software. Projects are assigned on microcomputers. (60-0) FW

OSE 150 Business English 2 Sem Hrs

The development of sound English usage skills. Emphasis is placed on those language skills that will enable students to perform effectively and efficiently in an information-based work environment. Projects will be assigned using microcomputers. (30-0) A

- OSE 151 Business Communications I** **3 Sem Hrs**
Includes principles and composition of effective basic business letters and memos as well as accuracy in grammar, spelling, punctuation, sentence structure, and format. Typewritten assignments are required. (45-0) A
- OSE 152 Business Communications II** **3 Sem Hrs**
Prerequisite: OSE 151 with a minimum grade of C (2.0). Studies effective verbal and nonverbal communication in business. Emphasis placed on audience reaction, logical organization, tone, clarity, and accuracy. Involves career information, the research process, and reporting. Typewritten and oral assignments are required. (45-0) A
- OSE 155 Editing** **2 Sem Hrs**
Prerequisite: OSE 171 or demonstrated typing skill. Development of proofreading and editing skills. A focus on a review of business writing principles and the use of revision symbols. Emphasis is placed on revising both format and content of business documents. Projects will be assigned using microcomputers. (30-0) A
- OSE 157 Filing** **2 Sem Hrs**
Prerequisite: OSE 170 or equivalent. Principles and practices of effective records management for manual and automated records systems using alphabetic, numeric, chronologic, and subject methods will be introduced as well as database concepts needed for understanding automated records storage and retrieval methods. Concepts will include adding, modifying, sorting, designing, searching, and printing. PC File+ will be used. Outside lab assignments will be required. (30-0) A
- OSE 158 Records Management** **3 Sem Hrs**
Prerequisite: Demonstrated keyboarding skill. The complete records cycle, development of filing procedures, operations and records control, centralized and decentralized systems, cost analyses, selection of equipment and supplies, forms and correspondence control, micrographics, automated information management, records management career opportunities, electronic storage, retrieval, and printing are included. Outside lab assignments and field trip are required. (45-0) F
- OSE 161 Alphabetic Shorthand I** **4 Sem Hrs**
Prerequisite: OSE 171 or equivalent. An intensive study of shorthand theory and brief forms. Theory reading and writing, writing of practiced and new-matter materials must be taken at a minimum of 40 words per minute and transcribed with 95 percent accuracy in addition to other ancillary requirements to earn a C (2.0) grade. Outside assignments required. (60-0) F
- OSE 162 Alphabetic Shorthand II** **3 Sem Hrs**
Prerequisite: OSE 161 with a minimum grade of C (2.0) and OSE 172, concurrent or equivalent. Designed to reinforce writing theory and to increase speed in taking new-matter dictation; to build transcription skills, including English grammar review, vocabulary study, and spelling. Dictation speed of 60 words per minute and transcribed with 95 percent accuracy plus other ancillary requirements needed for a final grade of C (2.0). Laboratory assignments required. (45-0) W
- OSE 170 Keyboarding I:Keyboard** **2 Sem Hrs**
Includes the touch system of the 10-key pad and the alphabetic, numeric, and symbol keys of the typewriter or microcomputer keyboard. Keyboarding speed (requirement for a passing grade is 20 gwam 3 min., 5 errors max.) Ten-key pad speed requirement for a passing grade is 72 keystrokes per minute (7 min., 2 errors max.). Outside lab assignments required. Individualized grading arranged for students with physical limitations. (30-0) A
- OSE 171 Keyboarding II:Format** **3 Sem Hrs**
Prerequisite: OSE 170 with a minimum grade of C (2.0) or keyboarding skill. Provides skill improvement, introduction to current business letter and report styles, and basic formatting skills of page layout, centering, tabs, and multi-page documents using the microcomputer. (45-0) A
- OSE 172 Keyboarding III:Intermediate** **3 Sem Hrs**
Prerequisite: OSE 171 (with beginning WordPerfect background) or equivalent completed with a minimum grade of C (2.0). Development of speed and accuracy in producing business and personal letters, rough drafts, manuscripts, outlines, and tables. Straight copy speed requirement for a C (2.0) grade is 40-42 GWAM (5 min., 5 errors max.). Lab assignments required. (45-0) A
- OSE 175 Machine Calculation** **1 Sem Hr**
Proficiency with 10-key keypad and basic operations of electronic display and printing calculators. Outside lab assignments are required. (15-0) A
- OSE 178 Keyboard Skillbuilding I** **2 Sem Hrs**
Prerequisite: OSE 170 or equivalent. Emphasizes the development of keyboarding speed and accuracy using the Cortez Peters Championship Typing program. For students with keyboarding experience and/or skill up to 45 wpm. May be taken concurrently with OSE 171—Keyboarding II: Format or OSE 172—Keyboarding III: Intermediate. Outside lab assignments are required. (30-0) A
- OSE 179 Keyboard Skillbuilding II** **2 Sem Hrs**
Prerequisite: OSE 171 or equivalent. Emphasizes the development of keyboarding speed and accuracy using the Cortez Peters Championship Typing program. For students typing 45 or more words per minute. May be taken concurrently with OSE 172—Keyboarding III: Intermediate or OSE 273—Keyboarding IV: Advanced. Outside lab assignments are required. (30-0) A
- OSE 181 Microsoft Word** **3 Sem Hrs**
Prerequisite: OSE 171 or equivalent. Provides an electronic tool to create, format, edit, print, and retrieve documents. Further emphasis will be on the following: the dictionary, Thesaurus, automatic windowing and graphic capabilities, mathematical functions, and merging functions. Use of a mouse system is included. Outside lab assignments required. Students cannot substitute OSE 181 credit for any of the following keyboarding classes: OSE 171, 172, or 273. (45-0) FW
- OSE 187 WordPerfect Beginning** **1 Sem Hr**
Prerequisite: OSE 170 or equivalent keyboarding skill. Provides the student with an introduction to the WordPerfect word processing program. Students will create, format, save, retrieve, edit, and print documents. Outside lab assignments are required. The course is designed to acquaint students with the WordPerfect software utilized in several OSE courses. (15-0) A
- OSE 188 WordPerfect Intermediate** **2 Sem Hrs**
Prerequisite: OSE 187 or equivalent or permission of instructor. This course further develops a practical working knowledge of the WordPerfect software package. Character, line, and page formatting features will be expanded upon. Block operations, forms design and selection, and other special features will be covered. Outside lab assignments are required. Students cannot substitute OSE 188 credit for any of the following keyboarding classes: OSE 171, 172, or 273. (30-0) AE
- OSE 189 WordPerfect Advanced** **2 Sem Hrs**
Prerequisite: OSE 188 or equivalent or permission of instructor. This course is a continuation in the WordPerfect series. The major focus will be on advanced merging and table features, graphics, macros, styles, columns, sort and select, and other special features. Outside lab assignments are required. Students cannot substitute OSE 189 credit for any of the following keyboarding classes: OSE 171, 172, or 273. (30-0) FWE
- OSE 191 WordPerfect for Windows** **3 Sem Hrs**
Prerequisite: OSE 171 or equivalent. Uses WordPerfect for Windows to format, create, edit, save, print, and retrieve documents in an integrated graphical environment. Outside lab assignments are required. Students cannot substitute OSE 191 credit for any of the following keyboarding classes: OSE 171, 172, or 273. (45-0) FW
- OSE 194 Microsoft Windows** **1 Sem Hr**
Prerequisite: OSE 170 or demonstrated keyboarding skill and CIS 133. Provides the student with a total computer environment, including: onboard desktop applications (clock/calendar, notepad, cardfile, calculator,

and clipboard); graphic painting program; and graphic word-processor. Windows provides the computer user with the means to view several programs at one time; transfer information between programs; and merge compatible documents from different programs through the use of drop-down menus, icons, dialog boxes, and title/menu bars. Use of a mouse system is included. Outside lab assignments required. (15-0) FW

OSE 195 Desktop Publishing - PageMaker 1 Sem Hr

Prerequisite: OSE 170 and a thorough working knowledge of at least one word processing computer software package or equivalent. Provides the student with an electronic tool to completely design a finished document of any size. The main emphasis will be on a page design with text/graphics merging. Windowing environments (Microsoft & PageMaker) and the Mouse system (Microsoft) will be utilized. Outside lab assignments are required. (15-0) FW

OSE 196 Desktop Publishing/Windows 2 Sem Hrs

Prerequisite: OSE 170, 145 or CIS 133 or equivalent and thorough knowledge of one word processing program. Windows provides a total computer environment, including desktop applications; graphic painting program word processor and a view of several programs at one time. Capability to transfer/ merge information with compatible programs. DESKTOP PUBLISHING provides electronic tool to completely develop/design finished documents using text/graphics merging. Incorporates use of compatible word processing and graphic programs, scanners, laser printers and mouse system. Outside lab assignments required. (30-0) FW

OSE 197 DPT - Page Layout/Design 2 Sem Hrs

Prerequisite: OSE 195 or 196 or equivalent all with a minimum grade of C (2.0). Provides advanced skills in desktop publishing emphasizing page layout and design. Students will produce, manage, and save graphic images using graphic drawing/painting, clipart and scanning programs; will explore scanning and manipulation of photographs; and will learn gray scale reproduction techniques. Outside lab assignments will be required. (30-0) W

OSE 245 Advanced Software Applications 2 Sem Hrs

Prerequisite: OSE 145, 172, CIS 132, and CIS 260 all with a minimum grade of C (2.0) or equivalent as determined by the instructor. Through the integration of specialized software packages, the following capabilities will be explored: a graphical windowing environment; manipulation/management of word processing, spreadsheet, database, and graphic files; and an introduction to electronic communications, scheduling, calendaring, and on-line calculating. Use of a mouse system will be included. Outside lab assignments will be required. (30-0) FW

OSE 254 Medical Insurance I 3 Sem Hrs

Prerequisite: HSC 105 and BIO 101 or permission of instructor. Includes diagnostic and procedure coding; basic insurance concepts and terminology used by health insurance carriers; completion of claim forms for commercial insurance companies, Blue Cross-Blue Shield of Michigan, Medicare and Medicaid. (45-0) F

OSE 255 Medical Insurance II 3 Sem Hrs

Prerequisite: OSE 254 with a minimum grade of C (2.0) or permission of instructor. An in-depth study of Michigan insurance claims processing including case study, coordination of benefits, adjustments, deductibles, co-pays, posting of payments and resolution of reimbursement problems. Insurance claims for commercial carriers, Blue Cross-Blue Shield, Medicare, Medicaid and CHAMPUS. (45-0) W

OSE 266 Medical Office Practice 3 Sem Hrs

Prerequisite: Sophomore standing, OSE 151, OSE 172, and OSE 276. Integrates medical office correspondence, reports, billing, appointments, medical records, medical-legal issues, and priority setting. Stresses job-task analysis and human relations. (45-0) W

OSE 267 Legal Office Practices 4 Sem Hrs

Prerequisite: Sophomore standing, OSE 151 and 172 or permission of instructor; OSE 162 or concurrently. Integrates legal office concepts and skills; expands knowledge of terminology, definitions, spelling, and shorthand outlines. Attention is given to priority setting and human relations. Related projects and simulations required. (60-0) WE

OSE 268 General Office Practices 3 Sem Hrs

Prerequisite: Sophomore standing, OSE 151, OSE 245, or permission of instructor. Development of various office concepts and skills through the integration of specialized software packages. Attention will be given to job-task analyses and human relations. Current office topics such as business etiquette, prioritizing, and screening phone calls will be discussed; and related projects will be required. (45-0) FW

OSE 273 Keyboarding IV Advanced 3 Sem Hrs

Prerequisite: OSE 172 (with intermediate WordPerfect background) or equivalent completed with a minimum grade of C (2.0). Emphasis on developing excellence and refinement of vocational skills and office production jobs using a microcomputer. Provides practice in keyboarding communications used in different professional and business fields. (45-0) FW

OSE 274 Machine Transcription 2 Sem Hrs

Prerequisite: OSE 172 (with intermediate wordprocessing background) completed with a minimum grade of C (2.0) or equivalent. Marketable transcription skills will be developed through practice by incorporating proper vocabulary and spelling usage; word division; grammar; capitalization; punctuation; letter, memo, and document format; microcomputer and cassette transcription operation. Outside lab assignments required. (30-0) FW

OSE 275 Machine Transcription/Legal 2 Sem Hrs

Prerequisite: OSE 172 (with intermediate wordprocessing background) completed with a minimum grade of C (2.0) or equivalent, GB 251, and GB 252. Marketable legal transcription skills will be developed through practice of proper legal vocabulary and spelling usage; word division; grammar; capitalization; punctuation; letter and legal document format; microcomputer and cassette transcription machine operation. Outside lab assignments required. (30-0) WE

OSE 276 Machine Transcription/Medical 3 Sem Hrs

Prerequisite: OSE 172 with intermediate WordPerfect background completed with a minimum grade of C (2.0) or equivalent; BIO 101 and HSC 105 or equivalent. Introduces cassette transcription machine operation and microcomputer to record physicians' dictation of medical progress notes, operative reports, letters and miscellaneous medical documents. Incorporates extensive practice and application of medical terminology, spelling, grammar, punctuation, capitalization. Uses various medical form formats. (45-0) F

OSE 290-299 Special Projects in Office Systems Education

Physical Education Activity Courses ♦♦♦♦♦

PE 101 Physical Fitness 1 Sem Hr

An individually designed program of physical fitness centered around the development of strength, flexibility and cardiovascular endurance. Pre and post test evaluations will be administered and an individual profile developed. (0-30) A

PE 103 Physical Conditioning for Women 1 Sem Hr

An introduction to the basic concepts underlying physical conditioning as it relates to optimal healthful living through the use of exercise programs and related fitness activities. (0-30) A

PE 104 Dance Exercise I 1 Sem Hr

Provides students with the information and skills needed to assess and improve fitness through the use of aerobic dance, exercises to music, and analysis of personal nutrition habits. (0-30) A

PE 105 Circuit Training 1 Sem Hr

Designed to maintain and improve physical fitness levels. Weights, calisthenics and endurance exercises are used in different combinations to provide complete workouts in a limited amount of time. (0-30) FW

PE 106 Fencing I 1 Sem Hr

An introduction to foil fencing, its basic fundamentals, techniques, rules and safety measures. (0-30) FW

PE 107 Fencing II 1 Sem Hr
Prerequisite: PE 106 or permission of instructor. Designed to further refine the basic fundamentals and the opportunity to expand knowledge and improve skills. Advance strategies included are: compound attacks and compound returns, false attacks on preparation and counter attacks. (0-30) FW

PE 108 Dance Exercise II 1 Sem Hr
Prerequisite: PE 104 or permission of instructor. A continuation of Dance Exercise I. Promotes physical fitness through exercises and aerobic activities set to music and emphasis will be placed on creating one's own exercise routine and techniques to reduce stress and tension. (0-30) W

PE 110 Training for Roadrunning and Racing 1 Sem Hr
Students will participate in running activities related to training methods used in long distance running and the concepts used in developing daily, weekly training schedules and tactics of competition road running. (0-30)

PE 111 Basketball for Women 1 Sem Hr
Covers basic skills of passing, dribbling, shooting, and team play. Rules and strategy also included. (0-30) FW

PE 112 Basketball for Men 1 Sem Hr
Covers basic skills of passing, dribbling, shooting and positional play. Rules and strategy are included. (0-30) FW

PE 113 Exercise Walking 1 Sem Hr
A systematic study of the way to change everyday walking into an exercise form. Each participant will create their own exercise prescription for walking based on their lifestyle and specific fitness needs. (0-30) A

PE 114 Soccer I 1 Sem Hr
Basic skills in kicking, dribbling, heading, and positional play. Rules and strategy are included. (0-30) F

PE 115 Softball 1 Sem Hr
Covers throwing, catching, batting, and base running, along with the rules of play. (0-30) S

PE 116 Soccer/Women 1 Sem Hr
Basic skills in kicking, dribbling, heading, and positional play. Rules and strategy are included. (0-30) F

PE 117 Soccer II 1 Sem Hr
Prerequisite: PE 114 or permission of instructor. Emphasis is placed on: a) the advanced skills of passing, passing and overlapping, heading, trapping, and shooting; b) understanding the offensive and defensive strategies of modern systems of soccer. (0-30) O

PE 118 Volleyball I 1 Sem Hr
Basic skills of handling the ball, passing, setting, spiking, net-rebound play, and blocking. Rules and strategy are included. (0-30) O

PE 119 Volleyball II 1 Sem Hr
Prerequisite: PE 118 or permission of instructor. Continuing improvement of beginning skills and the addition of experience in advanced play. Advanced strategies including offensive play patterns (4-0, 6-0, and switching) and defensive play patterns (middle back and middle up). Use of current USVBA rules. (0-30) W

PE 120 Beginning Racquetball 1 Sem Hr
This course is designed to acquaint the student with the basic skills necessary to participate in racquetball. It is a competitive game played in a four-walled court by two, three or four players using stringed racquets to serve and return the ball. (0-30) A

PE 121 Advanced Racquetball 1 Sem Hr
Prerequisite: PE 120 or permission of instructor. Emphasis is placed on: A) the development of advanced skills including ceiling shots, passing shots, serves, kill shots, backwall shots, and fly shots; B) strategies, techniques, and court positioning. (0-30) W

PE 122 Badminton I 1 Sem Hr
Techniques and use of the various shots, along with rules and strategies. (0-30) A

PE 123 Badminton II 1 Sem Hr
Prerequisite: PE 122 or permission of instructor. To afford the student the opportunity to continue with skills previously acquired in badminton; emphasis will be on the development and perfection of more advanced skill, techniques and strategies necessary for participation at a higher degree of proficiency. (0-30) W

PE 124 Sports Judo—Women 1 Sem Hr
Introduction to the rules, skills, and courtesies in sports judo as well as the special conditioning required (0-30) FW

PE 125 Sports Judo—Men 1 Sem Hr
Introduction to the rules, skills, and courtesies in sports judo as well as the special conditioning required. (0-30) FW

PE 126 Intermediate Sports Judo 1 Sem Hr
Prerequisite: PE 125 or permission of instructor. Continuing improvement of beginning techniques, additional throwing, groundwork, and combination throwing techniques taught. (0-30) FW

PE 127 Tennis I 1 Sem Hr
An introduction to the basic strokes in tennis along with rules, strategies, and courtesies of the game. Special fees are charged when taught off campus in indoor tennis facilities. (0-30) A

PE 128 Tennis II 1 Sem Hr
Prerequisite: PE 127 or permission of instructor. Designed to further refine the skills (ground strokes, serving, volleying) and knowledge (rules, strategies, and techniques of participation) of the beginning tennis player. Special fees are charged when taught off campus in indoor facilities. (15-15) FW

PE 129 Paddleball 1 Sem Hr
Covers the fundamental skills needed to play paddleball. Shots, serves, rules, and strategies for both singles and doubles either racquetball or paddleball would be helpful. Students must provide paddle, balls, and eye protection. (0-30) FW

PE 131 Bicycling 1 Sem Hr
Emphasis is placed on the fundamentals of cycling. Will cover selection and maintenance of equipment, gearing, pedaling, the techniques of shifting. Inherent in this activity will be physical conditioning to successfully complete the course. Student must furnish own bicycle. (0-30) F

PE 132 Archery 1 Sem Hr
Introduction to the basic skills in shooting, both recurved and compound bows, in target and field archery. Students must furnish own arrows and finger protection. (0-30) A

PE 133 Bowling I 1 Sem Hr
Fundamentals of starting stance, approach, and delivery, with emphasis on spot aiming. Courtesies, rules and scoring are also covered. There is a lane fee for each class meeting at which you bowl. (0-30) A

PE 134 Bowling II 1 Sem Hr
Prerequisite: PE 133 or permission of instructor. Designed to further refine the skills (hook delivery, spot bowling, specific spare pin pickup, and adaptation to lane conditions) of the bowler. (0-30) FW

PE 135 Golf I 1 Sem Hr
Fundamentals in the use of woods, irons, and putter along with the rules and courtesies of the game. A fee is charged for off campus golf course use. (0-30) FS

PE 136 Golf II 1 Sem Hr
Prerequisite: PE 135 or permission of instructor. Emphasis will be directed to the acquisition of the finer skills of the game of golf. Major attention will be given to the areas of shot placement and control, club selection, rule interpretation. (15-15) FS

- PE 137 Beginning Handball** 1 Sem Hr
Designed to acquaint the student with the rudimentary skills, rules and strategies necessary to participate in four-wall handball. (0-30) A
- PE 138 Step Aerobics** 1 Sem Hr
Incorporates bench stepping to enhance cardiorespiratory endurance and muscle tone using the aerobic principle. Emphasis on the importance of fitness and a healthy lifestyle is also applied. (0-30) A
- PE 139 Weight Training for Men** 1 Sem Hr
A systematic program of body conditioning and development through the use of weight exercises as the main emphasis. (0-30) A
- PE 140 Weight Training for Women** 1 Sem Hr
A systematic program of body conditioning and development through the use of weight exercises as the main emphasis. (0-30) A
- PE 141 Modern Dance I** 1 Sem Hr
For the beginner, an introduction to fundamentals of body movement through rhythmic activities designed to improve strength, flexibility, timing, spatial awareness and coordination. Also included will be problems in improvisation and simple choreography, and a brief survey of the history of modern dance and the contemporary dance scene. (0-30) FW
- PE 142 Modern Dance II** 1 Sem Hr
Prerequisite: PE 141 or 2 years recently of ballet or jazz, or permission of instructor. Will include intermediate level techniques with emphasis on choreographing and performing. (0-30) O
- PE 143 Social Dance I** 1 Sem Hr
Involves basic steps of the Fox Trot, Waltz, Swing, Cha Cha, Rhumba and Polka also includes a few folk and fad dances. (0-30) FW
- PE 145 Jazz Dance I** 1 Sem Hr
For the beginner, an introduction to basic jazz dance techniques (stretches, isolations, floor work, turn and locomotor patterns, etc.) and practice in combining them into dance phrases. There will be simple choreography problems and a survey of the history of jazz dance and of the contemporary jazz dance scene. (0-30) FW
- PE 146 Jazz Dance II** 1 Sem Hr
Prerequisite: PE 145 or 2 years recently of jazz, or permission of instructor. Will include intermediate level techniques with emphasis on choreographing, learning and performing routines. (0-30) O
- PE 147 Folk Dance I** 1 Sem Hr
Introduction to dances from many countries, starting with those using simple locomotor movements and progressing to intermediate level dances incorporating such traditional steps as the polka, waltz, schottische, two-step, etc. (0-30) O
- PE 149 Square Dance I** 1 Sem Hr
This course presents 10 basic figures of Appalachian style square dance and the 52 basic movements of modern western style square dance. These basic figures and movements will be utilized in dancing contras, quadrilles, rounds, and running sets. (0-30) O
- PE 150 Swimming for Nonswimmers** 1 Sem Hr
For those individuals who do not know how to swim and who have a fear of water. It will include personal safety skills, physical and mental adjustment to the water and fundamental swimming skills. (0-30) A
- PE 151 Swimming I** 1 Sem Hr
A "learn to swim" course for beginners. Fundamental swimming and safety skills are stressed. (0-30) A
- PE 152 Swimming II** 1 Sem Hr
Prerequisite: PE 151. Theory and practice of the five basic swimming strokes (front crawl, side stroke, elementary back stroke, back crawl, and breast stroke). Water safety skills and knowledge are emphasized. (0-30) A
- PE 153 Swimming III—Conditioning** 1 Sem Hr
Prerequisite: PE 152. This course will acquaint the student with the basic principles of cardiovascular fitness and strength in order to increase these components of fitness through swimming. (0-30) A
- PE 154 Lifeguarding** 1 Sem Hr
Prerequisite: Skill and knowledge of the five basic strokes. The American Red Cross units and progressions will be followed. Successful completion of all the lifesaving and water safety requirements will result in certification. (0-30) FW
- PE 155 Scuba Diving I** 1 Sem Hr
Prerequisite: Ability to swim. Techniques and information regarding use of self-contained underwater breathing apparatus including mask, fins, and snorkel. Includes classroom lecture, demonstration and pool dives. Students will be required to purchase a mask and snorkel plus pay an equipment fee as per guidelines given during first class session. (0-30) A
- PE 156 Canoeing I** 1 Sem Hr
Instruction in the basic paddling strokes and maneuvering techniques, methods of canoe transportation, launching, and boarding and canoe rescue. Involves on-campus classroom sessions and a weekend at a lake or river. Student must pay own expenses, canoe rental, food and transportation. (0-30) F
- PE 157 River Canoeing/Camping** 1 Sem Hr
Review of basic paddling techniques and instruction in advanced paddling techniques, plus care and repair of equipment. There will also be a review of first aid techniques, canoe transport launching and preparing for a two or three day river canoeing/camping experience. The student is expected to have basic swimming skills. The class involves on-campus classroom/pool sessions and on river canoeing and camping. Students must pay their own expenses, canoe rental, food and transportation. (0-30) F
- PE 158 Adapted Aquatics Aide** 1 Sem Hr
Swimming techniques, water exercises, simulation of disabilities, supervised practice teaching, and basic water safety involved with physical and mental impairments. (0-30) FW
- PE 159 Water Fitness** 1 Sem Hr
Water exercises are for people of all ages to develop and maintain themselves in good physical condition. They help to develop strength, improve muscle tone, develop stamina and endurance, improve circulation and enhance coordination, flexibility, and agility. No swimming skills are needed. (0-30) A
- PE 160 Snorkeling** 1 Sem Hr
Prerequisite: Ability to swim. Provides explanations, demonstrations, and practice in the fundamentals of snorkel swimming. The student will become familiar with the utilization and maintenance of the mask, snorkel, and fins. First aid, safety, and environmental conditions will be discussed. (0-30) O
- PE 161 Water Safety Instructor** 1 Sem Hr
Prerequisite: Current American Red Cross Emergency Water Safety or Lifeguard Card and swimmer level skills. Instructional methods and techniques in aquatics, practice teaching, water safety, survival swimming, swimming program development and pool and waterfront administration. Satisfactory completion of the course may result in certification as a Water Safety Instructor. (0-30) O
- PE 162 Scuba Diving II** 1 Sem Hr
Prerequisite: PE 155 or permission of instructor. Information, techniques, and practice in the use of self-contained underwater breathing apparatus for open water diving. Procedures covering dressing, equipment, buoyancy, kicks, descents, ascents, and the use of the compass are included. Course necessary for SCUBA certification. (0-30) AN
- PE 163 Swimming for Senior Citizens** 1 Sem Hr
Instruction will be given in the following areas: water exercises, swimming lessons, and swim and stay fit. The student will choose from of these areas in which to participate. No swimming skills are needed. (0-30)

PE 164 Cross Country Skiing 1 Sem Hr
Emphasis is placed on fundamentals in cross country skiing. Students will be taught selection and care of equipment, rudimentary ski movements, step turn, moving ahead over snow, controlling speed, half plow turn, poling, moving step and moving step turn, kick turn, skiing uphill, and waxing for various temperatures. Student must furnish own equipment and pay any special fees. (0-30) W

PE 165 Lifeguard Training Instructor 1 Sem Hr
Prerequisite: PE 154. Preparing lifeguards to teach the American Red Cross Lifeguard Training Course, Basic Water Safety and Emergency Water Safety Courses. Includes: Using rescue equipment; mask, fins and snorkel; entries; approaches; tows and carries; defenses, escapes, and maneuvers; and spinal injury management. (0-30) O

PE 166 Backpacking I 1 Sem Hr
To develop an understanding of and proficiency in the theory and techniques of backpacking. Primary emphasis will be directed to equipment selection, planning a camping trip, menu selection and outdoor cooking, safety, knot tying, and the sound use of conservation practices in the outdoors. These skills will be applied during an off campus weekend field trip normally. Students must pay own expenses. (0-30) FS

PE 167 Flyfishing 1 Sem Hr
Introduction to flycasting, knot tying, tack selection, wading safety, entomology, and ethics necessary for the enjoyment of flyfishing. Final session held on one of Northern Michigan's trout streams. Students must provide own waders and a valid Michigan fishing license. (0-30) WS

PE 168 Camping/Orienteering 1 Sem Hr
Provides the student with knowledge and skills necessary to: Plan and carry out short and/or extended camping trips, use and interpret maps, and use of a compass. Field trip required at student's expense. (0-30) O

PE 169 Lifestyle/Health-Risk 1 Sem Hr
A comprehensive health risk assessment designed to educate and motivate individuals to make lifestyle modifications which will promote a longer and healthier life. (0-30) FW

PE 170 Skiing I 1 Sem Hr
Emphasis is placed on the fundamental skills. The student will be taught gliding wedge, wedge turn, traversing and stem turn. Student must furnish or rent equipment and pay skiing charges. (0-30) WE

PE 171 Skiing II 1 Sem Hr
Prerequisite: PE 170 or equivalent skill level. Student will begin the transition from steered turn to sliding turn. Side slipping, uphill christie and stem christie will be taught. Student must furnish or rent equipment and pay skiing charges. (0-30) WE

PE 172 Skiing III 1 Sem Hr
Prerequisite: PE 171 or equivalent skill level. Student will learn the finer points of parallel skiing. Parallel christie, parallel with check, and short swing will be taught. Student must furnish or rent equipment and pay skiing charges. (0-30) WE

PE 175 Modern Dance Production 1 Sem Hr
Prerequisite: Permission of instructor. Provides an opportunity for the student with previous dance experience to choreograph, produce, and perform in a dance for an audience. (0-30) O

PE 176 Ballet I 1 Sem Hr
An introduction to the basic movements of ballet coordinated with exercises for stretching, flexing, and toning. Also stresses postural alignment and correction, basic barre work, and beginning center adage and allegro movements. (0-30) FW

PE 177 Ballet II 1 Sem Hr
Prerequisite: PE 176 or permission of instructor. Continues and further develops the basic movements introduced in Ballet I with emphasis on combinations of movements (enchainments) to develop concentration, balance and speed. (0-30) FW

PE 180 Sailing 1 Sem Hr
Basic theory, skill and techniques in small boat sailing, i.e., sailboat safety, nomenclature, knot tying, helmsmanship, sail handling, jibbing and coming about, docking under sail. A fee is charged for boat rental. (0-30) S

PE 181 Karate - Tae Kwon Do 1 Sem Hr
Non-contact martial art class that stresses proper technique in the fundamental exercises of punching, blocking, and kicking. Class also covers qualities of respect, self-discipline, and the skills of self-defense. (0-30) A

PE 182 Intermediate Karate 1 Sem Hr
Prerequisite: PE 181 or permission of instructor. Intermediate non-contact martial art class that stresses advanced techniques in punching, blocking, kicking, one-step sparring, free sparring, and sense and stress development. Uniform requirement discussed first class. (0-30) A

PE 186 Hiking 1 Sem Hr
Explanation, demonstrations, and practice in the basic techniques, equipment and safety needed to plan and carry out hikes of various lengths. Field trips are required at student's expense. (0-30) O

PE 187 Rowing 1 Sem Hr
Prerequisite: Ability to swim. Explanation, demonstration, and practice in the basic techniques, equipment, and safety needed in rowing. Instruction and rowing will take place at the Rowing Club facilities in Bay City. Additional lab fee required. (0-30) S

PE 189 Horseback Riding 1 Sem Hr
Introduction to the sport of horseback riding and horsemanship. Emphasis on riding techniques, equipment, groundwork, care, and safety. (Travel to nearby stable and lab/stable fee required.) (0-30) A

PE 191 Adapted Physical Education 1 Sem Hr

PE 192 Adapted Physical Education 1 Sem Hr

PE 193 Adapted Physical Education 1 Sem Hr

PE 194 Adapted Physical Education 1 Sem Hr

A program of developmental activities, games and sports suited to the interest, capacities and limitations of students with disabilities who may not safely or successfully engage in unrestricted participation in the general physical education program. (0-30) W

PE 201 Self-Defense/Fitness 2 Sem Hrs
Prerequisite: Permission of the instructor and concurrent enrollment in CJ 101. Methods of self-defense using pressure points and leverage for subject control. Emphasis is placed on subduing dangerous or violent individuals for criminal justice purposes. The fitness module will emphasize a regular program of calisthenics, stretching, strength building, and conditioning through both aerobic and non-aerobic activities. (0-60)

PE 290-299 Special Projects in Physical Education activities

Physical Education and Health Education Theory Courses ♦♦♦♦♦

PEH 140 Weight Control- Theory and Practice 1 Sem Hr
An introduction to the basic concepts underlying weight control as they relate to optimal healthful living. Development of improved personal health fitness levels through the use of a weight control program. Areas to be discussed include: principles and techniques of nutrition, exercise and behavioral therapy for weight reductions; individualized weight control programs; individual and group intervention skills; assessment and management of eating disorders. (15-0) O

PEH 158 Officiating Football 1 Sem Hr
Covers the techniques and rules governing the officiating of football. Practical experience provided. (15-0) F

PEH 159 Officiating Basketball 1 Sem Hr
Covers the techniques and rules governing the officiating of basketball. Practical experience provided. (15-0) W

3 Sem Hrs

Investigates the rationality of religious beliefs, and the meaning of religious practices, religious language and questions of evidence. Focuses on questions concerning proof of the existence of a deity, the problem of evil, the interpretation of mystical experience, the nature of religious faith and more. (45-0) FW

3 Sem Hrs

An introduction to moral problems encountered within the health care environment. Includes the identification of ethical issues, the learning of various ethical principles, and the analysis of ethical conflicts. Topics such as euthanasia, experimentation, the right to provide or deny health care, definitions of death, informed consent, allocation of medical resources, and humanizing the health care environment. (45-0) FW

4 Sem Hrs

Development of critical thinking skills through the study of formal and informal logic. Analysis of fallacies, methods of clear argumentation, syllogisms, inductive logic, scientific method and rational decision-making. (60-0) FWS

2 Sem Hrs

Open only to students in clinical nursing courses or LPNs taking prerequisites for transition track. Basic ethical concepts such as rights and duties, intrinsic and instrumental values, autonomy and the principle of utility. Such topics as confidentiality, veracity, paternalism, informed consent, abortion and euthanasia. Study of cases used to develop decision-making abilities. (30-0) FW

1 Sem Hr

Prerequisite: PHL 230 or PHL 215. Analysis of ethical dilemmas encountered by nursing students during their clinical course sequence is directed to sharpen the analytical abilities students developed in PHL 230. Study of additional topics regarding aids, suicide, consumer protection, ethics of mental health nursing, children's rights and more, broadens the base of applicable understanding developed in PHL 230.

(18-0) FWS

3 Sem Hrs

Examines past and present political and social systems from theoretical perspective. Entails comparison and evaluation of major ideologies and philosophies of the relationship of individuals to political and social institutions. Political systems such as socialism, communism, fascism, anarchism and liberalism explored. Credit may be earned in PHL 240 or POL 240 but not in both. (45-0) O

3 Sem Hrs

Investigation of the nature of science through the study of the logical structure of established scientific, pseudoscientific and marginally scientific theories such as astrology, parapsychology, evolution, creationism, and sociobiology. Focuses on such concepts as scientific theory, law, hypothesis, explanation, confirmation, demarcation, observation, theoretical entities. (45-0) O

3 Sem Hrs

Prerequisite: Students must have completed one philosophy course. Intensive examination and critical analysis of a specific philosopher's works or a specific philosophical issue within any branch of philosophy, e.g., ethics, metaphysics, epistemology, social or political philosophy. Designed as a seminar for the advanced student. (45-0) FW

PHL 290-299 Special Projects in Philosophy

Photography Courses ♦♦♦♦♦

3 Sem Hrs

A fundamental course in photography, intended as an elective for self-interest or preparation for upper level courses; basic skills covered include camera operations, film and print processing and compositional approaches to taking better photographs. Students are expected to complete several group and individual photographic projects. (0-90) FVW

3 Sem Hrs

Basic aesthetic problems of photography including: a historical and critical context for looking at and making photographs; concurrent darkroom practice which includes black and white film; print development and camera operations. Additional lab hours to be arranged. (45-30) FW

3 Sem Hrs

Prerequisite: PHO 100 or 101 or permission of instructor. Additional foundations of black and white photography, directed to improve skills while also introducing specialty films and techniques. Experiments include infrared and Kodalith films, solarization, reticulation, and montage problems. Additional lab hours to be arranged. (45-30) FW

3 Sem Hrs

Exploration of a variety of image-making possibilities through the printing of objects, found pictures, photographic negatives and the photographic collage. Intent is to combine a mixture of contemporary materials and antique processes. Printing methods cover: Cyanotype, Van Dyke Brown, Kwik Print, liquid silver emulsion, and photographic silkscreen. (45-30) O

3 Sem Hrs

Prerequisite: PHO 101. The study of the zone system, studio lighting, exposure calculations, and archival processing using large format cameras with an emphasis on the development of a personal photographic style. Additional lab hours to be arranged. Formerly PHO 103 Advanced Photography. (45-30) O

3 Sem Hrs

Prerequisite: PHO 100 or PHO 101 or equivalent. Fundamental techniques of color negative films and printing materials, with a study of the history and aesthetic concerns of the media. Projects will focus on a variety of visual approaches. The documentary style, photo illustration, the commercial assignment and the artistic viewpoint. Additional laboratory time to be arranged beyond the scheduled lecture/laboratory. Formerly PHO 105 Color Photography. (45-30) O

3 Sem Hrs

Prerequisite: PHO 100 or PHO 101 or portfolio review. Fundamental techniques of color positive and printing materials including: film types, exposures, filter and cibachrome processing, with a continued examination of historical and contemporary trends in color photography. (45-30) O

PHO 290-299 Special Projects in Photography

Physics Courses ♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

3 Sem Hrs

Designed to familiarize the student with the origin, characteristics, and evolution of the solar system, the stars, the galaxies, and the universe. Emphasis will be placed on how our understanding of the physical universe has changed. (45-0) O

4 Sem Hrs

Prerequisite: MTH 111. **Recommended** MTH 103 concurrently. An introduction to basic physical principles involving mechanics, fluids, and sound, with emphasis on practical applications. (60-30)

4 Sem Hrs

Prerequisite: Trigonometry or high school physics and MTH 119 or equivalent. Designed to familiarize the student with basic physical principles involving mechanics, heat, and sound. (60-45)

4 Sem Hrs

Prerequisite: PHY 111. Designed to familiarize the student with basic physical principles involving electricity, magnetism, light, and modern physics. (60-45)

2 Sem Hrs

No mathematical background needed. A study of the production, transmission, and perception of musical sound. Ancient and modern traditional instruments will be studied, along with synthesizers, computer music, acoustics, stereo systems, and the human ear. (30-0) F

PHY 211 Physics I 5 Sem Hrs
Prerequisite: MTH 161. High school physics recommended. Designed to familiarize science and engineering majors with basic physical principles involving mechanics, heat, and sound. (75-45)

PHY 212 Physics II 5 Sem Hrs
Prerequisite: PHY 211 and MTH 162. Designed to familiarize science and engineering majors with basic physical principles involving electricity, magnetism, light, and modern physics. (75-45)

PHY 215 Engineering Mechanics, Statics 3 Sem Hrs
Prerequisite: PHY 211 and MTH 162 (MTH 162 may be taken as a parallel course). Covers forces, components, vectors, moments, couples, methods of sections, stress in frame structures, cables, friction, first moments, products of inertia, and centroids. (45-0) O

PHY 290-299 Special Projects in Physics

Political Science Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

POL 103 Introduction to American Government 3 Sem Hrs
(Not open to students with credit in POL 111.) Organizations and functions of the political, electoral, legislative, administrative, and judicial processes of federal, state, and local governments. Credit may be earned in POL 103 or POL 111 but not in both. (This course satisfies the American Government graduation requirement in all curricula.) (45-0) A

POL 111 American Government and Politics 4 Sem Hrs
(Not open to students with credit in POL 103.) A study of the American political system utilizing the techniques of political science. Particular emphasis is placed on the organization and functioning of the electoral, legislative, administrative, and judicial process of the national government. Comparisons are made between federal, state, and local governments. Recommended for pre-law or social science majors or minors. Credit may be earned in POL 111 or POL 103 but not in both. (This course satisfies the American Government graduation requirement in all curricula.) (60-0) FW

POL 115 Politics of the Environment 2 Sem Hrs
Designed to develop an understanding and appreciation of the interacting forces that comprise our environment. Emphasis will center on the modern ecological problems involved in human's relationship to the geographic area under study as it has been affected by history, economics, and ecological conditions. Using the Saginaw Valley, students will examine various aspects of the exploitation, conservation, and control of the Valley's environment. May also be taken as BIO 115. Credit may be earned in POL 115 or BIO 115 but not in both. (30-0) WD

POL 212 State and Local Governments 3 Sem Hrs
Prerequisite: A course in political science or permission of instructor. Development, structure, organization and problems of the state and local units of government; along with their relation to the federal government. (45-0) O

POL 220 Minority Group Politics 3 Sem Hrs
Prerequisite: A course in political science or permission of instructor. An examination of the dynamics of minority group politics in the American political system. The nature, role, techniques, and objectives of ethnic groups will be analyzed, with special emphasis on the Afro-American and the Mexican-American. (45-0) FW

POL 221 Comparative Government 3 Sem Hrs
Prerequisite: A course in political science or permission of instructor. The study of major European and selected non-western political systems. Emphasis is placed on the techniques of comparative analysis and concepts of modernization, political development and political culture. (45-0) O

POL 222 The Middle East: Government and Politics 3 Sem Hrs
A study of the contemporary political systems of the countries of the Middle East with emphasis on the problems of developing nations, the internal conflicts within the region, and the role of the Middle East in the international community. (45-0) O

POL 223 The Judicial Process 3 Sem Hrs
Prerequisite: A course in political science or permission of instructor. A study of state and federal court systems, including the selection of judges, the roles of trial, primary and secondary appellate courts in civil and criminal cases, lawyers and the organized bar, pressure groups, relations between state and federal courts, as well as the legislative and executive branches, access to courts, and judicial review. Emphasis will also be given to judicial policy making, including constitutional law and civil liberties. (45-0) O

POL 225 International Relations 3 Sem Hrs
Prerequisite: A course in political science or permission of instructor. Introduction to the study of international politics. Covers the nation-state system, cold war politics, colonialism, and the problems of political stability. Also includes a survey of regional and international organizations. (45-0) O

POL 227 American Political Parties 3 Sem Hrs
Prerequisite: A course in political science or permission of instructor. History, structure, and functions of political parties in the United States; interaction of political parties, pressure groups, and public opinion. (45-0) O

POL 228 Constitutional Issues 3 Sem Hrs
A study of contemporary constitutional controversies set against their historical background. Typical issues discussed include: death penalty; abortion; euthanasia; freedom of the press vs. national security; presidential and congressional control of foreign policy; the insanity plea; and affirmative action. (45-0) O

POL 229 Political Terrorism 3 Sem Hrs
A study of state- and non-state sponsored terrorism: definition, origins, purposes, and nature of terrorism; tactics and weapons; objects and audiences; responses of objects and audiences: theory and case studies. (30-0) O

POL 240 Social and Political Theory 3 Sem Hrs
Examines past and present political and social system from a theoretical perspective. Entails a comparison and evaluation of the major ideologies and rationales of political systems such as socialism, communism, fascism, anarchism and liberalism. Credit may be earned in POL 240 or PHL 240 but not in both. (45-0) O

POL 241 Contemporary Feminist Thought 3 Sem Hrs
Provides a theoretical introduction to feminist thought and relates feminist thought to American political thought and American society. (45-0) O

POL 250 Introduction to British Government 3 Sem Hrs
Prerequisite: POL 103 or 111 or permission of instructor. An introduction to British political institutions and behavior. Both traditional perspectives and modern developments in British politics will be explored. (45-0) O

POL 268 International Studies in Political Science 4 Sem Hrs
The student will elect to do either a survey study of the overall political system of a country other than the United States or an in-depth study of one or more aspects of that political system. Overseas study is an integral part of the course. Expenses for travel and overseas study must be borne by the student. (60-0) O

POL 275 The Vietnam War 3 Sem Hrs
An interdisciplinary examination of the Vietnam War from its earliest beginnings as a colonial conflict to the withdrawal of American forces in 1975. The course seeks to integrate military, diplomatic and political factors in order to understand America's involvement. It also is an attempt to consider American decision-making in the broad context of the nation's global outlook and policies. Credit may be earned in POL 275 or HIS 275 but not in both. (45-0) O

POL 290-299 Special Projects in Political Science

Practical Nursing Education Courses ♦♦♦♦♦

PNE 100 Role/Function of Nurse Assistant 1 Sem Hr
Prerequisite: PNE 101 concurrently. Focus on function and responsibilities of nurse assistant in relation to special needs of residents in long-term care facilities. Emphasis on legal and ethical aspects associated with role of nurse assistant. Prepares PN student who successfully completes PNE 101 to take competence evaluation tests (written and skills) leading to State certification as a Nursing Assistant. (15-0) F

PNE 101 Fundamentals of Practical Nursing 7 Sem Hrs
Prerequisite: BIO 130 and NUR 100 with a C (2.0) minimum grade. Focus is on the nursing process as applied to basic human needs, introduction of concepts and theories related to holistic patient care and health education, including nutrition, mental health and legal aspects pertaining to practical nursing. Fundamental practical nursing skills will be practiced in selected clinical facilities. (Some evening experiences may be required.) (45-180) F

PNE 102 PN Care of the Adult I 8 Sem Hrs
Prerequisite: PNE 101 and PNE 110 with a C (2.0) minimum grade. Focus is on common, well-defined nursing diagnosis through the application of the nursing process and scientific concepts. Includes practical nursing skills for the care of the adult, medical-surgical patient and practice in selected clinical facilities. (Some evening experiences may be required.) (75-135) W

PNE 103 PN Maternal Child Care 5 Sem Hrs
Prerequisite: PNE 102 and BIO 132 with a C (2.0) minimum grade. With growth and development as a focal point, the continuum begins with an introduction to basic family-centered maternity care and proceeds through care of the pediatric patient, with common well-defined problems. Clinical experiences include observation and selected hands-on experiences in clinical facilities. (Some evening experiences may be required.) (60-45) S

PNE 104 PN Care for the Adult II 8 Sem Hrs
Prerequisite: PNE 102 and BIO 132 with a C (2.0) minimum grade. A continuation of the concepts in PNE 102 and practical nursing skills for the care of the adult medical-surgical patient, includes clinical practice in a variety of health care agencies, as well as selected clinical facilities. (Some evening experiences may be required.) (75-135) S

PNE 110 PN Principles of Pharmacology 1 Sem Hr
Prerequisite: BIO 130 and NUR 100 with a C (2.0) minimum grade. Focus is on selected pharmacologic agents employed in the treatment of patients across the life span. Included are the principles of medication administration in the clinical setting. (15-0) DF

PNE 111 Role/Function Practical Nurse 1 Sem Hr
Prerequisite: NUR 101, 102, 103, 150 and NUR 105/106. Focus on functions and responsibility of the Practical Nurse in a variety of health care settings. Emphasis on scope of practice of the Practical Nurse as defined by the Michigan Nurse Practice Act. Prepares student who has completed specified clinical courses in the RN program to write the PN licensure exams. (15-0) O

Physical Science Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

PSC 101 Physical Science 4 Sem Hrs
Recommended for students not majoring in the sciences. Fundamental concepts of the physical sciences are investigated and used to explore selected topics of astronomy and energy. Emphasis is directed toward a deeper understanding of the relevance of science to modern society. (45-30)

PSC 110 Energy in a Finite World 3 Sem Hrs
Designed to acquaint the student with basic energy concepts, the status and potential of current and future energy resources, the use and misuse of energy resources and technologies, and how to cope with decision making and problem solving as these concepts relate to energy. A number of mini-projects will be required which are designed to enhance the students' interest, understanding, and application of energy generation and utilization practices. (45-0) O

PSC 290-299 Special Projects in Physical Science

Psychology Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

PSY 101 Applied Psychology 3 Sem Hrs
An introductory course in basic principles of human relations that may be used in business and industry. Emphasis on understanding motivation and behavior in practical situations; help in developing an appreciation of our own behavior so that students may work more successfully with supervisors and with peers. (45-0) A

PSY 130 Psychology of Substance Abuse 3 Sem Hrs
A study of the predominant theories developed to explain the origins and the prevalence of substance abuse. Social deprivation, addictive personality, X-factor, need state, ignorance, peer pressure, personality defects and socialization theories will be examined. (45-0) EO

PSY 211 General Psychology 4 Sem Hrs
A study of the scientific principles underlying experience and behavior. Designed to give an understanding of human behavior in terms of the intrapsychic, behavioral, physiological, and environmental viewpoints. The course will cover basic research methods, learning, social factors, developmental changes, physiology, sensation, perception, motivation, intelligence, and personality. (60-0) A

PSY 223 Child Psychology 3 Sem Hrs
Prerequisite: PSY 211. An overview of the emotional, intellectual, social and physical development in children from conception through adolescence. The course considers the effect of heredity, environment, culture, and values on children's behavior as well as the effect children have on adults' behavior. (45-0) A

PSY 231 Theories of Personality 3 Sem Hrs
Prerequisite: PSY 211. An examination of theories of personality development from a psychodynamic, social learning and humanistic perspective. Individual theories are critiqued regarding personality development, abnormality, psychotherapy, research, and the concept of humanity. (45-0) A

PSY 235 Adult Development 3 Sem Hrs
Prerequisite: PSY 211. Examines human behavior and adaptation in the adult years. Topics will include: Theories of adult development, psychological aspects of normal adulthood, and behavioral disorders due to aging. Emphasis will be placed on application of theoretical concepts and research findings. (45-0) O

PSY 241 Abnormal Psychology 3 Sem Hrs
Prerequisite: PSY 211. An examination of symptoms, and treatment of psychological disorders, including the psychodynamic, behavioral, humanistic, and neuroscience views of abnormal behavior. (45-0) A

PSY 250 Behavior Management 3 Sem Hrs
Designed to develop specific observation techniques and skills in the recording of behavior, in task analysis of behavior goals, and the development of reinforcement schedules for given situations. Examples of behavior modification will be discussed in terms of their application to behavior management. (30-30) O

PSY 253 Mental Retardation 3 Sem Hrs
An exploration of the history, etiology, and remediation of mental retardation. Emphasis will be on causes of mental retardation, physical and psychological characteristics of the mentally retarded, and approaches to remediation/development of the mentally retarded. (45-0) O

PSY 290-299 Special Projects in Psychology

Physical Therapist Assistant Courses ♦♦♦♦♦

PTA 101 Clinical Anatomy 2 Sem Hrs
Prerequisite: Admission to the Physical Therapist Assistant Program. Provides the gross anatomy concepts necessary to implement procedures utilized in physical therapy practice. (30-15) FD

PTA 102 Clinical Neuroanatomy 2 Sem Hrs
Prerequisite: PTA 101, 105 and 110 each with a C (2.0) minimum grade. Provides the neuroanatomy concepts necessary to implement procedures utilized in physical therapy practice. (30-0) WD

PTA 105 Modalities 1 6 Sem Hrs
Prerequisite: Admission to the Physical Therapist Assistant program. Provides the theory, principles and technical skills of hydrotherapy, massage, ultrasound, diathermy, ultraviolet, infrared, traction, Jobst and paraffin modalities. (Includes twenty hours of assigned clinical observation.) (45-75) FD

PTA 110 Therapeutic Exercise I 3 Sem Hrs
Prerequisite: Admission to the Physical Therapist Assistant Program. Introduces basic therapeutic exercise and activities of daily living (A.D.L.) (30-45) FD

PTA 120 Therapeutic Exercise 2 2 Sem Hrs
Prerequisite: PTA 101, 105, and 110 each with a C (2.0) minimum grade. Introduces the general principles, rationale, and technical skills related to rehabilitation techniques for orthopedic, neurological, medical and pediatric disabilities. (15-45) WD

PTA 121 Human Growth and Development 2 Sem Hrs
Prerequisite: PTA 101, 105, and 110 each with a C (2.0) minimum grade. Provides theory in and observation of normal and abnormal physical development from birth through aging. (15-15) WD

PTA 123 Clinical Medicine 1 3 Sem Hrs
Prerequisite: PTA 101, 105, and 110 each with a C (2.0) minimum grade. Introduces acute and chronic pathological conditions resulting from disease or injury that are commonly treated in physical therapy. (30-30) WD

PTA 124 PTA Clinic 1 2 Sem Hrs
Prerequisite: PTA 101, 105, and 110 each with a C (2.0) minimum grade. Structured clinical experience designed to provide the opportunity to observe and assist with physical therapy procedures. (0-96) WD

PTA 125 Tests & Measurements 2 Sem Hrs
Prerequisite: PTA 101, 105, and 110 each with a C (2.0) minimum grade. Provides the technical skills and knowledge necessary to assist a physical therapist with goniometry, muscle testing gait/posture evaluations, and sensory/coordination assessment. (7.5-45) WD

PTA 205 Modalities II 2 Sem Hrs
Prerequisite: PTA 102, 120, 121, 123, 124, 125 each with a C (2.0) minimum grade. Provides the theory, principles, and technical skills necessary to perform electrotherapy and other advanced modalities. (12-24) FD

PTA 210 Therapeutic Exercise 3 2 Sem Hrs
Prerequisite: PTA 205 and 213 each with a C (2.0) minimum grade. Provides the general concepts related to sensory motor, inhibition and facilitation techniques. (18-36) FD

PTA 213 Clinical Medicine 2 1 Sem Hr
Prerequisite: PTA 102, 120, 121, 123, 124, and 125 each with a C (2.0) minimum grade. An advanced study of specific orthopedic conditions treated in the physical therapy setting. (12-15) FD

PTA 214 PTA Clinic 2 3 Sem Hrs
Prerequisite: PTA 210 and 215 each with a C (2.0) minimum grade. Structured clinical experience designed to provide the opportunity to observe and assist physical therapy procedures. (0-160) FD

PTA 215 Rehabilitation Programs 1 Sem Hr
Prerequisite: PTA 205 and 213 each with a C (2.0) minimum grade. Introduces the rehabilitation team concept and appropriate documentation skills. Provides the rationale and techniques employed in the rehabilitation of persons with long-term disabilities. (13-15) FD

PTA 220 Chest Physical Therapy 1 Sem Hr
Prerequisite: PTA 214 with a C (2.0) minimum grade. Provides the theory, principles and skills used in chest physical therapy. Introduces basic cardiac rehabilitation. (15-0) WD

PTA 221 Clinical Seminar 2 Sem Hrs
Prerequisite: PTA 220 with a C (2.0) minimum grade. Provides the opportunity for students to discuss professional, ethical and legal issues related to clinical practice. (15-15) WD

PTA 224 PTA Clinic 3 9 Sem Hrs
Prerequisite: PTA 220 with a C (2.0) minimum grade. Structured clinical experience designed to provide opportunity for integration and refinement of the knowledge and skills necessary for entry level employment. (0-480) WD

PTA 290-299 Special Projects in Physical Therapy Assisting

Quality Assurance Courses ♦♦♦♦ ♦♦♦♦ ♦♦

QA 240 Quality and Productivity Management 3 Sem Hrs
Designed to give those in management and supervisory positions the skills and insight needed to manage effectively in a quality-conscious work environment. The philosophies of Deming, Juran, Crosby, Shainin, and Taguchi will be studied along with statistical problem solving techniques. (45-0) FE

QA 241 Six Tools of SPC 1 Sem Hr
Designed to familiarize the student with the six statistical tools utilized in the problem solving needs of quality control. The emphasis is placed on pareto principles, flow diagrams, brain storming, cause and effect diagrams, variability, histograms, average and range charts, median and range charts, and P charts. (15-0) FE WE

QA 244 Statistical Process Control I 3 Sem Hrs
Prerequisite: QA 241, MFG 111, and MT 110 or equivalent; or MFG 231. Develops skill in the use of control charts in the manufacturing process. Students select proper control for the process, construct the control chart from production data, and analyze it for statistical stability. Includes both attribute and variable data control charts. (45-0) WE

QA 246 Taguchi Techniques I 1 Sem Hr
Prerequisite: MTH 231 or QA 244. An overview of the Taguchi method of experimental design. Reviews the three major phases: system design; parameter design; and tolerance design; and covers the Loss Function and Signal-to-Noise Ratio. (15-0) O

QA 247 Taguchi Techniques II 3 Sem Hrs
Prerequisite: MTH 233 or QA 244. An in-depth study of the Taguchi technique of experimental design. Topics include: loss function; parameter design for minimum, nominal, and maximum targets; tolerance design under noise conditions. A Taguchi design of experiment project is required. (45-0) O

Radiography Courses ♦♦♦♦ ♦♦♦♦ ♦♦♦♦ ♦♦

RAD 100 X-Radiation Physics 4 Sem Hrs
Prerequisite: Admission to Radiography Program. Designed to familiarize the student with the basic principles of electronics for X-radiation production and control in diagnostic radiographic equipment. (45-30) FD

RAD 102 Introduction to Radiography 2 Sem Hrs
Prerequisite: Admission to Radiography Program plus concurrent enrollment in RAD 100 and 105. Provides an overview of Radiography and its role in health care delivery. The ethical and legal responsibilities of the Radiographer and methods of patient care will be included. (30-0) FD

RAD 105 Fundamentals of Radiography 2 Sem Hrs
Prerequisite: Admission to Radiography Program. Provides the student with the theory and skills necessary to operate the radiographic equipment, process radiographs and use radiographic accessory devices in the campus laboratory setting. (15-22.5) FD

RAD 110 Principles of Radiographic Exposure 1 Sem Hr
Prerequisite: RAD 105 and RAD 102 each with a minimum grade of C (2.0). Provides the theory and skills necessary to analyze the diagnostic quality of a radiograph and effectively manipulate exposure variables to produce a diagnostic radiograph. (7.5-21) FD

RAD 115 Clinical Orientation 3 Sem Hrs
Prerequisite: Completion of RAD 105 and 102 each with a C (2.0) minimum grade plus concurrent enrollment in RAD 110. Introduces the student to the clinical setting and provides the framework necessary to accomplish the purposes and objectives of clinical education. (0-112) FD

RAD 120 Principles of Radiation Biology and Protection 2 Sem Hrs
Prerequisite: RAD 100, RAD 110, and RAD 115 each with a C (2.0) minimum grade plus concurrent enrollment in RAD 130. Examines biological effects of radiation on cells, organs, and systems. Emphasis is placed on standards and methods of practice and includes radiation exposure standards and radiation monitoring. (30-0) WD

RAD 130 Radiographic Procedures 1 2 Sem Hrs
Prerequisite: RAD 100, 110, and 115 each with a C (2.0) minimum grade. Introduces the basic terminology of radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the chest, upper extremities, and lower extremities. (15-22.5) WD

RAD 135 Clinical Education 1 6 Sem Hrs
Prerequisite: RAD 120 and RAD 130 each with a C (2.0) minimum grade and concurrent enrollment in RAD 140. Structured clinical experience designed to provide the opportunity to perform radiographic procedures of the chest, upper extremities and lower extremities. Develops the skills necessary to function effectively as a radiographer. (0-285) WD

RAD 140 Clinical Seminar 1 1 Sem Hr
Prerequisite: RAD 120 and RAD 130 each with a C (2.0) minimum grade and concurrent enrollment in RAD 135. A clinical overview of radiographic procedures of the chest, upper extremities and lower extremities. Provides the opportunity to correlate all aspects of a radiographic procedure. (15-0) WD

RAD 150 Radiographic Procedures 2 2 Sem Hrs
Prerequisite: RAD 135 and RAD 140 each with a C (2.0) minimum grade. A continuation of radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the abdomen, gastrointestinal tract, biliary tract, and urinary tract. (15-22.5) SD

RAD 155 Radiographic Quality Assurance 1 Sem Hr
Prerequisite: RAD 135 and RAD 140 each with a C (2.0) minimum grade plus concurrent enrollment in RAD 150. Introduces the principles procedures, instrumentation, and testing methods used for quality control of the radiographic imaging system. (15-0) SD

RAD 160 Clinical Education 2 6 Sem Hrs
Prerequisite: RAD 150 and RAD 155 each with a C (2.0) minimum grade and concurrent enrollment in RAD 165. Structured clinical experience designed to provide the opportunity to perform radiographic procedures of the abdomen, gastrointestinal tract, biliary tract, and urinary tract. Further develops the skills necessary to function effectively as a radiographer. (0-285) SD

RAD 165 Clinical Seminar 2 1 Sem Hr
Prerequisite: RAD 150 and RAD 155 each with a C (2.0) minimum grade and concurrent enrollment in RAD 160. A clinical overview of radiographic procedures of the abdomen, gastrointestinal tract, biliary tract, and urinary tract. Provides the opportunity to correlate all aspects of a radiographic procedure. (15-0) SD

RAD 210 Pathology in Radiography 2 Sem Hrs
Prerequisite: RAD 160 and 165 each with a C (2.0) minimum grade. The course will overview the pathological processes that occur as a consequence of aging, disease, heredity, or trauma. The effects of pathology on the radiographic image will be correlated with the techniques used to best manifest the pathological condition. Adjustments in the radiographic procedures or technical factors because of pathology will be stressed. (30-0) FD

RAD 215 Radiographic Procedures 3 2 Sem Hrs
Prerequisites: RAD 160 and 165 each with a C (2.0) minimum grade. A continuation of radiographic positioning. Provides the knowledge and

skill necessary to perform radiographic procedures of the shoulder girdle, bony thorax, cervical spine, thoracic spine, lumbar spine, pelvis, and hips. (15-22.5) FD

RAD 220 Clinical Education 3 6 Sem Hrs
Prerequisite: RAD 210 and 215 each with a C (2.0) minimum grade and concurrent enrollment in RAD 225. Structured clinical experience designed to provide the opportunity to perform radiographic procedures of the shoulder girdle, bony thorax, cervical spine, thoracic spine, lumbar spine, pelvis, and hips. Further develops the skill necessary to function effectively as a radiographer. (0-285) FD

RAD 225 Clinical Seminar 3 1 Sem Hr
Prerequisite: RAD 210 and 215 each with a C (2.0) minimum grade and concurrent enrollment in RAD 220. A clinical overview of radiographic procedures of the shoulder girdle, bone thorax, cervical spine, lumbar spine, pelvis, and hips. Provides the opportunity to correlate all aspects of a radiographic procedure. (15-0) FD

RAD 235 Radiographic Procedures 4 2 Sem Hrs
Prerequisite: RAD 220 and 225 each with a C (2.0) minimum grade. A continuation of radiographic positioning. Provides the knowledge and skill necessary to perform radiographic procedures of the skull and facial cranium. (15-22.5) WD

RAD 240 Special Procedures 3 Sem Hrs
Prerequisite: RAD 220 and 225 each with a C (2.0) minimum grade. Introduces the more sophisticated and technically involved imaging procedures used in diagnostic radiology. Provides a basis for understanding the role of the radiographer in the area of special procedures. (45-0) WD

RAD 245 Clinical Education 4 6 Sem Hrs
Prerequisite: RAD 235 and 240 each with a C (2.0) minimum grade and concurrent enrollment in RAD 250. Structured clinical experience designed to provide the opportunity to perform radiographic procedures of the skull and facial cranium. Further develops the skills necessary to function effectively as a radiographer. (0-285) WD

RAD 250 Clinical Seminar 4 1 Sem Hr
Prerequisite: RAD 235 and 240 each with a C (2.0) minimum grade and concurrent enrollment in RAD 245. A clinical overview of radiographic procedures of the skull and facial cranium. Provides the opportunity to correlate all aspects of a radiographic procedure. (15-0) WD

RAD 260 Clinical Education 5 10 Sem Hrs
Prerequisite: RAD 235, 240, 245 and 250 each with a C (2.0) minimum grade. Structured clinical experience designed to provide the opportunity to perform radiographic procedures at an advanced level. Emphasis will be on gaining experience and developing organization and responsibility necessary for successful employment. Optional rotations through specialty areas. Week-end and afternoon assignments are required. (0-600) SD

RAD 290-299 Special Projects in Radiography

Residential Construction Courses ♦♦♦♦ ♦♦

RC 101 Construction Print Interpretation 3 Sem Hrs
Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. Credit may be earned in either RC 101 or SKCT 111 but not in both. (45-0) FD WE

RC 102 Building Materials 3 Sem Hrs
A study of the basic building materials used primarily for residential construction. Credit may be earned in RC 102 or ARC 101 but not in both. (45-0) FD WE

RC 104 Construction Lab I**3 Sem Hrs**

A study of the care and use of woodworking tools. Included is: tool terminology, purpose and uses of various tools and the functional principles of woodworking hand tools, including those which are power or pneumatically driven. (15-60) FD WE

RC 105 Building Site Surveying**3 Sem Hrs**

Prerequisite: RC 113. An introduction to the tools and instruments used for surveying. Methods and procedures of developing a building layout are included. Credit may be earned in RC 105 or ARC 221 but not in both. (45-0) WD

RC 106 Concrete and Foundations**4 Sem Hrs**

Prerequisite: RC 102. Studies practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, sidewalks, patios, etc. (45-30) WD

RC 108 Construction Safety**2 Sem Hrs**

A study of Occupational Safety and Health Administration (OSHA) safety and health standards required of residential builders. Includes training in first aid and cardio pulmonary resuscitation (CPR) to treat on-the-job injuries. Includes proper construction of safe scaffolding. (30-0) WD

RC 109 Residential Drafting**4 Sem Hrs**

Fundamentals of residential drafting including linework, lettering, symbols, multiview projections, one and two point perspective, floor plans, sections and elevations. Study of space requirements. Introduction to CAD. Credit may be earned in RC 109 or ARC 105 but not in both. (45-45) FD

RC 113 Carpentry Math**2 Sem Hrs**

Prerequisite: Students scoring 19 or higher on the numerical skills portion of ASSET can waive this course. Acquaints students with basic mathematical processes relating to construction and includes practical demonstrations. Covers fractions, decimals, ratios and percentages. Credit may be earned in either RC 113 or SKCT 113 but not in both. (30-0) FD WE

RC 114 Framing Square**3 Sem Hrs**

Prerequisite: RC 113 or a score of 19 or higher on the numerical skills portion of ASSET. The use of the framing square in construction. Credit may be earned in either RC 114 or SKCT 114 but not in both. (45-0) FD WE

RC 200 Construction Contracting Rules and Regulations**3 Sem Hrs**

Introduction to contracting laws, rules, and regulations as they apply to residential builders. Covers builder's law, builder's license, insurance, deeds and abstracts, loans and land development. (45-0) FD

RC 201 Rough and Outside Framing**4 Sem Hrs**

Prerequisite: RC 104. Instruction in the techniques of construction used in all phases of framing and exterior finishing. (30-60) FD

RC 202 Building Materials Estimation**3 Sem Hrs**

Prerequisite: RC 113. A course designed to introduce methods and procedures commonly used in determining the costs of construction materials. Credit may be earned in RC 202 or ARC 204 but not in both. (45-0) FD

RC 203 Construction Laboratory II**2 Sem Hrs**

Prerequisite: RC 104 and 114. A course designed to allow time for practical application of the various construction procedures that are typically encountered on the job. Problem solving is a feature of this course. (15-60) FD

RC 204 Inside Finishing and Hardware**3 Sem Hrs**

Prerequisite: RC 104 and 114. Instruction includes principles of interior construction, joinery and installation, and finishing of all types of interior trim. (45-30) WD

RC 205 Cabinet Making and Millwork**5 Sem Hrs**

Prerequisite: RC 203. A study of the construction, placement, and installation procedures of cabinets used in residential buildings. (45-60) WD

RC 206 Plumbing, Heating, and Electrical Equipment**3 Sem Hrs**

Designed to study equipment installation as it pertains to construction and carpentry. Credit may be earned in RC 206 or ARC 111 but not in both. (45-0) WD

RC 211 Elements of Structural Design**3 Sem Hrs**

Review of basic mechanics. Analysis of live and dead loads on simple structural members. Use and limitations of wood, steel and concrete handbooks in structural design. Use of structural calculations with micro-computers and calculators in solving basic structural problems. Credit may be earned in RC 211 or ARC 211 but not in both. (45-0) WD

RC 212 Building Systems Components**3 Sem Hrs**

Provides a comprehensive overview of the various types of construction design and structural capabilities. Covers framing techniques and the application of relevant materials. Design and application of different types of interior and exterior materials are stressed. (45-15) O

RC 290-299 Special Projects in Residential Construction**Real Estate Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦****RE 150 Real Estate Fundamentals****3 Sem Hrs**

Designed to acquaint the student with the principles of real estate including fundamentals, legal concepts, real estate licensing, brokerage, financing, and appraising. Upon presentation of a Real Estate Sales License to the chairperson of the business division of Delta College, Delta College will grant 3 hours of credit for RE 150 for prior learning experience. (45-0) O

RE 280 Real Estate Principles**8 Sem Hrs**

Includes all materials from the Michigan Association of Realtors Real Estate Institute GRI I, GRI II, and GRI III. In order to declare this curriculum and to receive the Real Estate Associate Degree, students must successfully complete the GRI courses through the Michigan Association of Realtors. Upon presentation of a copy of the GRI certificate to the chairperson of the business division of Delta College, Delta College will grant 8 hours of credit in RE 280 for prior learning experience. (180-0)

RE 284 Real Estate Valuation**3 Sem Hrs**

Intended to serve the educational requirement of the State of Michigan Real Estate Valuation Specialist. Upon presentation of a copy of a certificate of completion for the Real Estate Valuation Specialist License (from the State of Michigan) to the chairperson of the business division of Delta College, Delta College will award 3 credits for RE 284 for prior learning experience. (45-0)

RE 285 Real Estate Appraiser**2 Sem Hrs**

Prerequisite: RE 284. Intended to serve as the remaining part of the educational requirement for a State Licensed Real Estate Appraiser. Upon presentation of a copy of a certificate of completion for a State Licensed Real Estate Appraiser (from the State of Michigan) to the chairperson of the business division of Delta College, Delta College will award 2 credits for RE 285 for prior learning experience.

Robotics Technology Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦**ROB 101 Introduction to Robotics****1 Sem Hr**

Surveys the global applications of robotics in the fields of manufacturing, medicine, agriculture, industrial security, waste cleanup, consumerism, military, and aerospace. Overview of robot types, programming, end effectors, and interface with the environment. Several robots are demonstrated in the lab. (15-0) O

ROB 103 Robotic Power, Sensors and Controls**3 Sem Hrs**

Prerequisite: MTH 111 and PHY 101. Structure, mechanics, and control of the robot arm and end effector. Topics include robot forces, displacement and motion, mechanical drives and components fluid power, electromechanical sensors, and computer-interface controls. (45-0) O

ROB 223 Fluid Control for Automated Machines 2 Sem Hrs
Prerequisite: MT 220. Advanced fluid power components and circuitry used on industrial robots, automated and intelligent machines and vehicles. (30-0) O

ROB 290-299 Special Projects in Robotics Technology

Respiratory Care Courses ♦♦♦♦♦♦♦♦♦♦

RT 100 Basic Sciences for Respiratory Care 2 Sem Hrs
Prerequisite: High school algebra or MTH 107 with a C (2.0) minimum grade within the past five years. Introduces the basic principles of math, chemistry, and physics utilized in the field of respiratory care. Emphasis is placed on the physical and chemical principles relating to liquids and gases as they provide a foundation for the study of respiratory care. (30-0).

RT 111 Oxygen, Aerosol and Humidity Therapy 2 Sem Hrs
Prerequisite: Admission to Respiratory Care program. The basic respiratory therapy modalities of oxygen, aerosol, and humidity therapy are covered. Included are the indications, physiologic basis, and equipment utilized. Therapy is related to the adult and pediatric patient, including a discussion of some specific disease states. (26-8) FD

RT 112 Medical Gas Production, Use and Regulation 1 Sem Hr
Prerequisite: Admission to Respiratory Care program. The production, use, storage, and regulation of medical gases are covered, including the regulatory agencies which set standards for safety. (13-4) FD

RT 113 Evaluation of the Chest and Breathing; Coughing and Sputum; Chest Physical Therapy 1 Sem Hr
Prerequisite: Admission to Respiratory Care program. In this module the student will learn how to evaluate the chest and breathing; teach coughing and evaluate coughing and sputum production; and administer chest physical therapy. Cystic fibrosis a disease state requiring mucokinesis is also covered. (13-4) FD

RT 114 Sterilization and Asepsis and Basic RC Pharmacology 1 Sem Hr
Prerequisite: Admission to Respiratory Care program. This module familiarizes the student with basic drug therapy as it relates to respiratory care, and includes croup, epiglottitis, and asthma as indications for drug therapy. Sterilization and asepsis as they relate to respiratory therapy equipment and procedures, the common respiratory pathogens, and the types of pneumonias are also included. (13-4) FD

RT 115 Hyperinflation Therapy and Pressure-Cycled Ventilators 2 Sem Hrs
Prerequisite: Admission to Respiratory Care program. This course deals with the indications for and means of administration of deep breath therapy. Atelectasis as an indication is included. (26-8) FD

RT 116 Chest X-Ray, Basic Blood Gas Interpretation, & Bronchoscopy 1 Sem Hr
Prerequisite: Admission to the Respiratory Care program. Presents the basic diagnostic tools; chest X-rays and blood gas interpretation. In addition, bronchoscopy will be covered. (14-2) FD

RT 121 Orientation to RC as a Profession 1 Sem Hr
Prerequisite: Admission to Respiratory Care program. Does not exclude students from orientation to facilities with which she/he has no experience. This course will familiarize the student with: the role of a professional; respiratory therapy from a historical, professional, and management perspective; and the clinical settings in which the student will practice. (0-24) FD

RT 126 Clinical Education I 4 Sem Hrs
Must be taken concurrently with RT 111, 112, 113, 114, 115, 116, and 121. In the clinical setting, the student will practice and apply the information and skills covered in the above listed courses. (0-160) FD

RT 129 Clinical Seminar I 1 Sem Hr
Must be taken concurrently with RT 111, 112, 113, 114, 115, 116, 121, and 126. Designed to integrate the classroom and clinical activities in a seminar format. (15-0) FD

RT 131 Artificial Airway Care and Manual Ventilation 2 Sem Hrs
Prerequisite: RT 111, 112, 113, 114, 115, and 116 each with a C (2.0) minimum grade. The student will study various types of artificial airways, care of the patient with an artificial airway, suctioning secretions from airways, manual ventilation, and extubation. (26-8) WD

RT 132 Adult Ventilator Care 3 Sem Hrs
Prerequisite: RT 111, 112, 113, 114, 115, and 116 each with a C (2.0) minimum grade. The student will study several adult ventilators, the types of mechanical ventilatory care, the indications for mechanical ventilatory support, and care of the patient receiving mechanical ventilatory support. (39-12) WD

RT 133 Pulmonary Function and Stress Testing I 2 Sem Hrs
Prerequisite: A C (2.0) minimum grade in RT 111, 112, 113, 114, 115, and 116. The screening modes of pulmonary function testing will be presented. (28-4) WD

RT 134 Arterial Blood Gases and Chest Tube Drainage 1 Sem Hr
Prerequisite: A C (2.0) minimum grade in RT 111, 112, 113, 114, 115, and 116. Focus on arterial blood sampling techniques and modifications in therapy to adjust blood gases. Includes principles and techniques of chest tube drainage. (14-2) WD

RT 146 Clinical Education II 7 Sem Hrs
Must be taken concurrently with RT 131, 132, 133, 134, and 149. In the clinical setting, all clinical skills from RT 126 will be reviewed and applied to the critically ill patient. In addition, the concepts and skills of artificial airway care and manual ventilation, arterial blood gas analysis and chest tube drainage, and pulmonary function testing will be introduced and applied. (0-240) WD

RT 149 Clinical Seminar II 1 Sem Hr
Must be taken concurrently with RT 146. Designed to integrate the classroom and clinical activities in a seminar format. (15-0) WD

RT 160 Transition-Technician to Therapist 2 Sem Hrs
Completion of an AMA-approved Respiratory Therapy Technician Program within the last 2 years or completion of a Technician program with at least one year of work experience in the last 2 years; or certification (CRTT) by the National Board of Respiratory Care with at least 3 years of work experience in the last 5 years. Must be taken concurrently with RT 235. Emphasis will be upon material in RT 116, 133, and 134. Successful completion of this course and RT 235 will enable technicians to enter the second year of the therapist program. Will only be offered if space in the program permits. (30-0) SD

RT 205 Respiratory Therapy Pharmacology 3 Sem Hrs
Prerequisite: A C (2.0) minimum grade in RT 207, 211, 212, 214, and 216. Covers advanced pharmacology, its physiological basis, and role in cardiorespiratory care. (45-0) WD

RT 207 Cardiopulmonary Pathophysiology 2 Sem Hrs
Prerequisite: RT 235 with a C (2.0) minimum grade or RT 160 and RT 235 each with a C (2.0) minimum grade. Cardiopulmonary pathophysiology will be studied with an emphasis on clinical presentation, evaluation, and treatment. (30-0) FD

RT 211 Advanced Respiratory Physiology 3 Sem Hrs
Prerequisite: RT 235 with a C (2.0) minimum grade or RT 160 and RT 235 each with a C (2.0) minimum grade for the Transition student. Pulmonary and cardiovascular physiology will be studied in detail, from the post natal period through aging, as the basis for evaluation and treatment of pathophysiology. (45-0) FD

RT 212 Advanced Critical Care Techniques 2 Sem Hrs
Prerequisite: RT 235 with a C (2.0) minimum grade or RT 160 and RT 235 each with a C (2.0) minimum grade for the transition student. Patient management via mechanical ventilatory support, patient/ventilator compatibility, weaning, the effect of mechanical ventilation on other organ systems, as well as newer modes of mechanical ventilation will be covered. (26-8) FD

RT 214 Seminar I 1 Sem Hr
Prerequisite: RT 235 with a C (2.0) minimum grade or RT 160 and RT 235 each with a C (2.0) minimum grade for the transition student. Introduces research methods and report writing in respiratory therapy. Requires the student to research and report upon an area of interest. (15-0) FD

RT 216 Rehabilitation and Home Care I 1 Sem Hr
Prerequisite: RT 235 with a C (2.0) minimum grade or RT 160 and RT 235 each with a C (2.0) minimum grade for the transition student. Relates the scope of rehabilitation and home care to respiratory therapy. (15-0) FD

RT 226 Clinical Education III 7 Sem Hrs
Must be taken concurrently with RT 207, 211, 212, 214, 216 and 229. A clinical rotation designed to provide a review of basic critical care skills. In addition, the knowledge and skills of advanced respiratory physiology, pathophysiology, critical care techniques, and rehabilitation and home care will be applied. Emphasis will be placed upon the interpretation of patient data and management of the critically ill patient. (0-240) FD

RT 229 Clinical Seminar III 1 Sem Hr
Must be taken concurrently with RT 226. Designed to integrate the classroom and clinical activities in a seminar format. (15-0) FD

RT 231 Maternal and Neonatal Respiratory Care 2 Sem Hrs
Prerequisite: RT 207, 211, 212, 214, and 216 each with a C (2.0) minimum grade. This course will cover the respiratory changes in the mother during pregnancy, labor, and delivery. Fetal development, the birth process, cardiovascular and respiratory changes after birth, neo-natal pathophysiology and neonatal ventilators are also covered. (27-6) WD

RT 232 Pathophysiology Conference 2 Sem Hrs
Prerequisite: RT 207, 211, 212, 214, and 216 each with a C (2.0) minimum grade. Pathophysiology as an indication for respiratory care will be covered in a seminar format. (30-0) WD

RT 234 Seminar II 1 Sem Hr
Prerequisite: RT 207, 211, 212, 214, and 216 each with a C (2.0) minimum grade. Continues the investigations into writing and research that was begun in RT 214. (15-0) WD

RT 235 Cardiovascular Evaluation and Monitoring 2 Sem Hrs
Prerequisite: RT 131, 132, 133, 134, 146 and 149 each with a C (2.0) minimum grade. The methods of cardiovascular evaluation and monitoring will be covered and related to cardiovascular anatomy, physiology and pathophysiology. (28-4) SD

RT 244 Optional Rotation/Special Project 1 Sem Hr
Must be taken concurrently with RT 205, 231, 232 and 234. Students will choose a rotation or project to meet their personal goals. The student will design, contract for, complete, and summarize the project. It may be combined with RT 234. (0-16) WD

RT 246 Comprehensive Clinical Education 8 Sem Hrs
Must be taken concurrently with RT 205, 231, 232, and 234. In the clinical setting, the student will apply all of the knowledge and skills covered in the program. Emphasis will be upon the integration of all levels of knowledge and skills as a prelude to functioning as a professional therapist. (0-360) WD.

RT 290-299 Special Projects in Respiratory Care

Russian Courses ♦♦♦♦♦

RUS 104 Speaking Russian 2 Sem Hrs
The student will learn a number of simple, everyday expressions in Russian. Intensive practice of comments-inquiries-responses about name, age, nationality, family, work, etc. Expressions useful in hotels, restaurants, stores, transport systems, as well as in meeting people, will be included. The Russian alphabet will be introduced and practiced. (30-0) O

RUS 111 Russian One 4 Sem Hrs
Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written Russian by means of oral practice, reading of simple texts, and written exercises. (60-0) O

RUS 112 Russian Two 4 Sem Hrs
Prerequisite: RUS 111 or one year of high school Russian. Continuation of RUS 111. (60-0) O

RUS 211 Russian Three 4 Sem Hrs
Prerequisite: RUS 112 or two years of high school Russian. Continued emphasis placed on proper pronunciation habits and application of grammatical structures of modern spoken and written Russian by means of oral exercises, conversations, reading of Russian prose, and written exercises. As much as possible this class is conducted in Russian. (60-0) O

RUS 212 Russian Four 4 Sem Hrs
Prerequisite: RUS 211 or its equivalent. Continuation of RUS 211 with more emphasis on conversation and composition. (60-0) O

RUS 290-299 Special Projects in Russian

Substance Abuse Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

SA 110 Fundamentals of Substance Abuse 3 Sem Hrs
An introduction to the field of substance abuse counseling. Major topic areas will include: basic information on substance abuse; the treatment process; procedures to develop the treatment plan; strategies for assessment; individual, group, and family counseling; client rights; and professional ethics. (45-0) EFW

SA 125 Substance Abuse Counseling I 3 Sem Hrs
Prerequisite: SA 110 or permission of instructor. A survey of individual, couple, family and group approaches to substance abuse therapy including examination of interviewing, differential diagnostics, therapeutic relationships, and treatment planning. (45-0) OE

SA 127 Psychopharmacology of Substance Abuse I 2 Sem Hrs
A study of the varying behaviors resulting from the use of alcohol, sedatives and hypnotics throughout the biological process of absorption, distribution, metabolism and excretion. The psychological, sociological, physiological and legal implications of the abuse of these drugs will also be examined. (30-0) OE

SA 135 Substance Abuse Counseling II 3 Sem Hrs
Prerequisite: SA 125 or permission of instructor. A study of the theoretical foundations and practical applications of a variety of counseling techniques ranging from alcoholics anonymous to eclectic psychotherapy. (45-0) OE

SA 136 Psychopharmacology of Substance Abuse II 2 Sem Hrs
A study of the varying behaviors resulting from use of amphetamines, narcotics, solvents, hallucinogens and marijuana throughout the biological process of absorption, distribution, metabolism and excretion. The psychological, sociological, physiological and legal implications of the use of these drugs will also be examined. (30-0) OE

SA 140 Practicum in Substance Abuse 4 Sem Hrs
Prerequisite: SA 135 or permission of instructor. Field placement in one or more professional substance abuse counseling settings. A special attempt will be made to find field education placements compatible with trainee interests and agency needs. (0-200) E

SA 145 Substance Abuse Counseling III 3 Sem Hrs
Prerequisite: SA 135 or permission of instructor. Designed to expand and enhance substance abuse counseling skills in the advanced substance abuse counseling student or the practitioner. Uses analysis and discussion of field experiences and other case studies to explore possible solutions to treatment approach problems. (45-0) OE

SA 290-299 Special Projects in Substance Abuse

Interdisciplinary Science Course ♦♦♦♦♦♦♦♦♦♦

SCI 250 Research Project in Science 2-6 Sem Hrs
Prerequisite: CHM 112 or CHM 230. Designed to provide science student with opportunity to design, carry out a science research project under the supervision of a faculty advisor. A research report will be prepared that includes a library search, problem identification, procedure documentation, data, data analysis, and conclusion. Evaluation will be handled by a team of faculty and/or experts. Credits awarded will be based on the nature of the project and its evaluation. Two credits are minimum requirement. Beneficial to all science majors in Biology, Chemistry, and Engineering. (30) NA

Surgical First Assistant Courses ♦♦♦♦♦ ♦♦♦♦

SFA 301 Advanced Surgical Anatomy I 3 Sem Hrs
Prerequisite: Admission to the Surgical First Assistant advanced course of study and concurrent enrollment in SFA 303 and 305. Regional study of anatomy related to surgical procedures; also includes review of relevant physiology and introduction to basic embryology, histology, and pathology. (45-0) W

SFA 303 Fundamental Techniques I 3 Sem Hrs
Prerequisite: Admission to the Surgical First Assistant advanced course of study and concurrent enrollment in SFA 301 and 305. Theory of and basic skills practice in pre-operative, intra-operative and post-operative functions and techniques of a Surgical First Assistant. (30-30) W

SFA 305 Anesthesia and Surgical Pharmacology 2 Sem Hrs
Prerequisite: Admission to the Surgical First Assistant advanced course of study and concurrent enrollment in SFA 301 and 303. Review of anesthetic agents and their methods of administration, drugs used during surgery, and emergency drugs, including adverse reactions; emphasis is on how the surgical procedure may be affected by the pharmacologic agents used. (30-0) W

SFA 312 Advanced Surgical Anatomy II 3 Sem Hrs
Prerequisite: SFA 301 with a minimum C (2.0) grade and concurrent enrollment in SFA 314, 316, and 318. Continuation of SFA 301, Advanced Surgical Anatomy I. (45-0) S

SFA 314 Fundamental Techniques II 2 Sem Hrs
Prerequisite: SFA 303 with a minimum C (2.0) grade and concurrent enrollment in SFA 312, 316, and 318. Continuation of SFA 303, Fundamental Techniques I. (30-0) S

SFA 316 Professional Conduct 1 Sem Hr
Prerequisite: SFA 301, 303, and 305 with a minimum C (2.0) grade and concurrent enrollment in SFA 312, 314, and 318. Exploration of interpersonal, legal and ethical aspects of surgical patient care; recognition of surgical complications and appropriate actions. (15-0) S

SFA 318 Applied Bioscience 3 Sem Hrs
Prerequisite: SFA 301, 303, and 305 with a minimum C (2.0) grade and concurrent enrollment in SFA 312, 314, and 316. Examination of normal and pathological physiological processes as applied to measurement and intervention techniques in surgical patients; review of surgical microbiology and infection control. (45-0) SN

SFA 329 Clinical Preceptorship 10 Sem Hrs
Prerequisite: SFA 301, 303, 305, 312, 314, 316, and 318 each with a minimum grade of C (2.0) and consent of clinical coordinator. Clinical practice of basic surgical skills and techniques for Surgical First Assistants by individual assignment to a qualified preceptor surgeon who will provide direct supervision during each of six rotations; to include minimum number of major and minor cases in general surgery, orthopedic surgery, peripheral vascular surgery, endoscopic procedures, and two electives. A statement of proficiency from each supervising preceptor is required upon completion of each rotation. (0-315) F

Sign Language Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦

SL 111 Sign Language I 3 Sem Hrs
Designed for people who have no knowledge of sign language. Introduces the student to American Sign Language, the language many deaf or hearing impaired adults use. Brief discussions of deaf culture are incorporated throughout the course. (45-0) FWS

SL 112 Sign Language II 3 Sem Hrs
Prerequisite: SL 111 or demonstrated basic knowledge of American Sign Language. A continuation of SL 111, designed to give students a broader sign vocabulary while increasing their conversational fluency. (45-0) WS

SL 121 Sign Language III 3 Sem Hrs
Prerequisite: SL 112 or demonstrated knowledge of American Sign Language. Builds upon skills, knowledge, and vocabulary gained in SL 111 and 112. During this course students will be asked to use their skills in the community. (45-0) O

Sociology Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

SOC 157 Projects in Community Service 1 Sem Hr
Student volunteers will be assigned in groups to assist agency staff in programs in the tri-city area working with populations of need. Students will be assigned on the basis of preferred interests. Supportive seminar will provide structure and supervision for an experience in the field of human services. Students may elect to take SOC 157, 158 and 159, however, only a total of three (3) credit hours can be earned in these courses. (15-30) EFW

SOC 158 Projects in Community Service 2 Sem Hrs
Student volunteers will be assigned in groups to assist agency staff in programs in the tri-city area working with populations of need. Students will be assigned on the basis of preferred interests. Supportive seminar will provide structure and supervision for an experience in the field of human services. Students may elect to take SOC 157, 158, and 159, however, only a total of three (3) credit hours can be earned in these courses. (15-60) EFW

SOC 159 Projects in Community Services 3 Sem Hrs
Student volunteers will be assigned in groups to assist agency staff in programs in the tri-city area working will populations of need. Students will be assigned on the basis of preferred interests. Supportive seminar will provide structure and supervision for an experience in the field of human services. Students may elect to take SOC 157, 158, and 159, however, only a total of three (3) credit hours can be earned in these courses. (15-90) EFW

SOC 161 International Projects in Cross-Cultural Learning 1 Sem Hr
Student volunteers will be assigned to either community agencies providing cross-cultural experiences or to an international work experience. Supportive seminars will provide both structure and background knowledge of the particular country involved. (A minimum of 30 hours volunteer placement is required.) Credit may be earned in SOC 161 or IHU 161 but not both. (15-30) O

SOC 162 International Projects In Cross-Cultural Learning 2 Sem Hrs
Student volunteers will be assigned to either community agencies providing cross-cultural experiences or to an international work experience. Supportive seminars will provide both structure and background knowledge of the particular country involved. (A minimum of 60 hours volunteer placement is required.) Credit may be earned in SOC 162 or IHU 162 but not both. (15-60) O

SOC 211 Principles of Sociology 3 Sem Hrs
An introduction to the scientific study of society and social behavior including the basic concepts, theories, and methods of sociology. (45-0) A

SOC 212 Social Problems**3 Sem Hrs**

Prerequisite: SOC 211. An analysis of contemporary social problems within the theoretical framework of social change, value conflicts, and social deviation; an attempt to examine resulting implications for social policy. (45-0) FW

SOC 214 Sociology of Substance Abuse**3 Sem Hrs**

Prerequisite: SOC 211. A survey of the problem of substance abuse in contemporary society including its scope, distribution, and direct and indirect effects on society. Responses to the problem of substance abuse by business, industry, education, medicine, and the legal profession will be explored. (45-0) EO

**SOC 215 Sociology of Minority Groups
(Inter-group Relations)****3 Sem Hrs**

Prerequisite: SOC 211. A sociological approach to study of prejudice and discrimination against minority groups, primarily in the United States. The emphasis is upon the analysis of both causes and solutions to the problems of prejudice and discrimination. (45-0) O

SOC 216 The Black Experience**4 Sem Hrs**

A survey course presenting several aspects of Black life using an interdisciplinary approach. The major units of study are Black culture, power and politics, Black family, business and economic development, and Black psychology. Each component will present an historical analysis as well as an overview of contemporary research and/or thought in the field. (60-0) O

SOC 221 Marriage and Family**3 Sem Hrs**

Prerequisite: SOC 211 or SOC 231 or PSY 211 or permission of instructor. A study of the family as an institution in society. Broad research approach encompassing aspects of historical and cross societal evidence of this institution as well as contemporary American pairing and child rearing practices. (45-0) A

SOC 222 Sociology of Black Families**3 Sem Hrs**

An examination of the patterned behavior of Black families. The strengths, weaknesses, and opportunities of varying patterns of family life will be explored. Situational analyses will be used to examine demographic characteristics, mobility, patterns of premarital dating and marriage, socialization and the future of the Black family in technological society. (45-0) O

SOC 230 Physical Anthropology and Archeology**4 Sem Hrs**

An introduction to the origin and evolution of humankind's physical and cultural development. Major emphases are on the evidence and theories of human evolution and a survey of Old World and New World archeology. This course may be taken as Social Science or Natural Science credit but cannot be counted as a lab science course. (60-0) DFW

SOC 231 Cultural Anthropology**3 Sem Hrs**

An introduction to humanity in its cultural setting. An emphasis will be given to the study of a diversity of non-industrialized cultures and the implications of that study for understanding our own culture. (45-0) DFW

SOC 235 Myths of the World**3 Sem Hrs**

An analysis of several major myths in terms of their history and their relationship with religion, culture, literature, music, art, and science. Also explored will be the relationship between the myths. (45-0) O

SOC 240 Sociology of Sex and Gender**3 Sem Hrs**

An examination of the division of social roles between males and females. Topics will include functional roles, personality development, and sexual behavior. Emphasis will be placed on cross-cultural data and on comparison of divergent theories of gender roles. (45-0) O

SOC 245 Death Education**3 Sem Hrs**

Concerned with an analysis of the nature of death. Attention is given to some of the philosophical, religious, cultural, biological, psychological, sociological, economic and legal aspects of death and dying. Credit may be earned in SOC 245 or PEH 245 but not in both. (45-0) DFW

SOC 246 Contemporary Health Issues**3 Sem Hrs**

Designed to identify and examine contemporary health issues. Explores the environmental, personal, and social factors affecting individual and social mental and physical health. Includes guideline for becoming an intelligent consumer of health care products and services. Credit may be earned in SOC 246 or PEH 171 but not in both. (45-0) FW

SOC 250 Introduction to Social Work**3 Sem Hrs**

An introduction to social work as a helping profession within the field of human services. Social work values, practice strategies, and helping skills will be treated in the context of the social welfare institution. Students planning to transfer to a four-year social work program may also need to take either SOC 157, 158 or 159 to meet the experience requirement necessary for admittance to the social work program at transfer institutions. (45-0) EA

SOC 252 Community Organization**3 Sem Hrs**

Prerequisite: SOC 211. An introduction to the structure and process through which communities function. Focus is upon two major components of community and their roles in solving community problems. Neighborhoods are explored as informal systems of social support, while the network of public and private agencies providing professional human services are explored as formal community resources. Designed chiefly for students enrolled in human services curricula to develop their understanding of communities and the resources available to them for problem solving. (45-0) O

SOC 265 Third World Development**4 Sem Hrs**

An interdisciplinary description and analysis of processes and conditions which created and maintain the "third world." Population, physical environment, historical, political, social and economic factors will be addressed. Current concepts and development theories will be explored and applied. Credit may be earned in SOC 265 or GEO 255 but not in both. (60-0) W

SOC 268 International Studies in Sociology**4 Sem Hrs**

The student will select a major institution of society for the purpose of comparative study. An analysis and comparison of that institution in preselected societies will be the major focus of the course. Includes classroom lectures, individual consultation and international field study. Expenses for field study must be borne by the student. By prior arrangement with appropriate faculty, students may also take International studies in the following disciplines: GEO 268, ECN 268, GB 268. (60-0) O

SOC 271 Religion and Society**3 Sem Hrs**

An examination of religion as a social institution and cultural belief system including a survey of major world religions such as Judaism, Christianity, Islam, Hinduism, Buddhism, Confucianism, indigenous American religions and new religious movements. Cross-societal material is presented to enhance understanding the common elements of religious systems as well as their diversity. Various theoretical approaches to the study of religion are considered in order to analyze the functions of religion in human societies. (45-0)

SOC 275 Sociology of Stress**3 Sem Hrs**

Designed to help students understand stress as a built-in characteristic of the world in which they live and to learn ways in which stress may be managed to bring about individual growth. Pervasive stressors in everyday life, stress tolerance, linkages between stress and physical and emotional illness, and the value of individual coping patterns will be examined in the course. A range of stress management strategies will be explored. (45-0) A

**SOC 280 Introduction to Social/Behavioral
Science Research****4 Sem Hrs**

Prerequisite: ECN 221, POL 103, POL 111, PSY 211 or SOC 211. An introduction to social and behavioral research utilizing a multidisciplinary approach. Students will be instructed in how to formulate research questions, search the literature, select a research design, collect and analyze data, and draw useful conclusions. Students will also be instructed in the use of the SPSS-X computer program as a primary tool in statistical analysis. (60-0) SD

SOC 281 An Introduction of SPSS 1 Sem Hr
Prerequisite: Some statistics or research background or taking such a course concurrently. An introduction to the Statistical Package for the Social Sciences (SPSS) including writing and executing SPSS programs on the Prime Computer so students can engage in statistical analysis of data. An introduction to the Prime Computer and an editor are also included. Credit may be earned in SOC 281 or CPS 108 but not both. (15-0) SD

SOC 282H Seminar in Social Issues 3 Sem Hrs
Prerequisite: Honors program participant or permission of instructor. An integrated study involving exploration and development of critical thinking, analysis and problem-solving skills with an interdisciplinary approach focusing on a selected social issue. (45-0) WD

SOC 290-299 Special Projects in Sociology

Spanish Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦

SPA 101 Hispanic Civilizations 2 Sem Hrs
An introduction to some basic concepts concerning educational systems, religious thought, marriage customs, attitudes toward death, role of man and woman, historical highlights, cultural and natural resources, and relevant contributions in the area of art, music, literature, foods, and clothing of the Spanish-speaking world (Europe, the Americas, and the U.S.A.). Course will be conducted in English. (30-0) O

SPA 105 Conversational Spanish - Introduction 2 Sem Hrs
Prerequisite: No previous formal study of Spanish. Designed to emphasize the acquisition of oral skills. Successful completion of SPA 105 and 106 is considered equivalent to the successful completion of Spanish One. (30-0) FSW

SPA 106 Conversational Spanish - Continuation 2 Sem Hrs
Prerequisite: SPA 105 or permission of instructor. A continuation of SPA 105 with more emphasis on reading and writing Spanish. Successful completion of SPA 105 and 106 is considered equivalent to the successful completion of Spanish One. (30-0) O

SPA 107 Spanish for Medical Personnel 1 Sem Hr
An introduction to conversational Spanish for medical personnel maximizing specific information, but holding the structure and extended vocabulary to just that need for basic communication. Handouts and audio-tapes will reinforce the material covered in class. (15-0) O

SPA 111 Spanish One 4 Sem Hrs
Prerequisite: No previous formal study of Spanish. Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written Spanish by means of oral-aural practice, reading of simple texts, and written exercises. (60-0) FWS

SPA 112 Spanish Two 4 Sem Hrs
Prerequisite: One year of high school Spanish or SPA 111. Continuation of SPA 111. (60-0)

SPA 150 Central Mexico 2 Sem Hrs
Study of ancient, colonial and modern civilization in a Spanish-speaking country. Students will visit archeological and historical sites and also have unassigned time for individual interests. Students pay tuition plus all their expenses. (30-0) O

SPA 151 Mayan Mexico 2 Sem Hrs
Study of ancient, colonial and modern civilization in a Spanish-speaking country. Students will visit archeological and historical sites and also have unassigned time for individual interests. Students pay tuition plus all their expenses. (30-0) O

SPA 211 Spanish Three 4 Sem Hrs
Prerequisite: Two years of high school Spanish or SPA 112. Continued emphasis placed on proper pronunciation habits and on application of grammatical structures of modern spoken and written Spanish by means of oral-aural exercises, conversations, reading of Spanish prose, and written exercises. As much as possible, this class is conducted in Spanish. (60-0) O

SPA 212 Spanish Four 4 Sem Hrs
Prerequisite: SPA 211 or three years of high school Spanish. continuation of Spanish Three. (60-0) O

SPA 275 Introduction of Hispanic Fiction 3 Sem Hrs
Prerequisite: Ability to speak and read Spanish (completion of fourth year of high school Spanish or fourth semester of college Spanish, or permission of the instructor). Reading, research, and discussion based on a study of representative literature of the Hispanic world (Europe, North America, and South America). Students will read, discuss, and write about three selected novels and/or plays under guided supervision. Course will be conducted in Spanish. (45-0) O

SPA 290-299 Special Projects in Spanish

Speech/Oral Communication Courses ♦♦♦♦♦

SPH 100 Basic Communication Skills 3 Sem Hrs
Designed to improve language awareness. The following will be emphasized: self assessment/peer evaluation, oral expression, small group interaction, vocabulary enrichment and grammar skills. (45-0) FW

SPH 112 Fundamentals of Oral Communication 3 Sem Hrs
The course offers training in the fundamental processes of oral expression, with an emphasis on speaking and listening as the coordination of perception and expression. The basic principles, components, and skills that will aid the individual in various communication situations are stressed. (45-0) FWS E

SPH 114 Interpersonal Communications 3 Sem Hrs
An introduction to the process of functions of perception, non-verbal behavior, self-concept roles and culture on human interaction in varying social settings. Emphasis is placed on helping the students increase their competence as a communicator in these situations. Various concepts on communication behavior are applied in the classroom. (45-0) FWS E

SPH 148 Orientation to Deafness 2 Sem Hrs
Introduction to the history of deaf education in America and the types of educational programs that have evolved. Basic audiology and communication difficulties of deafness is covered including the psychological, social, emotional, and occupational aspects of deafness. (30-0) O

SPH 202 Oral Communications for Managers 3 Sem Hrs
Managers manage things; leaders lead people. This course focuses on organizational behavior; management behavior styles and team building; interpersonal communication; appraisal, disciplinary, motivational and counseling interviews; listening and nonverbal behavior; public speaking; and leadership and consensus decision making. Emphasis is placed on practical skills within the organization. (45-0) FW

SPH 212 Listening 3 Sem Hrs
Focus will be on the theory, behavior, and skills of listening. Course material will include discussion of: listener/speaker responsibility; physiological and psychological processes of listening; barriers and control methods; improvements; and the five types of listening devoted to nonverbal behavior with regard to seeing as listening. Persons who attain success in this course should benefit both interpersonally and professionally. (45-0) FW

SPH 214 Discussion Techniques 3 Sem Hrs
Prerequisite: A previous speech course or permission of the instructor. Designed to explain discussion as a means to better understanding and action in human affairs and to develop attitudes and skills which enable people to participate in discussion competently. A study of group leadership. (45-0) O

SPH 215 Introduction to Theatre 3 Sem Hrs
Designed to give the student some insight into the various aspects of theatrical production. The purpose is to make the student a discriminating observer of dramatic production whether on stage, film, or the T.V. screen. Included in this study are play analysis and practical experience in acting, directing, scenery, and lighting. (45-0) FW

3 Sem Hrs

This class is devoted to introducing the student to the various historical areas of the theatre, from the ancient Greeks to the present. Emphasis is placed on the development of the physical theatre, representative playwrights, and the development of actor and the director. (45-0) O

3 Sem Hrs

Designed to acquaint the student with the technical aspects of theatrical production: i.e., set design/construction, lighting, sound, props. Instruction to be both lecture and practical lab. (45-0) O

3 Sem Hrs

Prerequisite: SPH 112 or permission of instructor. A study of theory and a practice of theatres of oral interpretation: readers' theatre, chamber theatre, multiple reading. Requires directing at least two productions. (45-0) O

3 Sem Hrs

Prerequisite: SPH 112 or permission of instructor. Provides the student with knowledge of the history of story telling. Gives experience in selecting literature and material for story telling. Provides practice in literature by reading aloud and story telling. The student will be required to perform in five categories of story telling. (3-0) O

3 Sem Hrs

Focuses on nonverbal communication as it relates to interpersonal social, business and professional behavior. Analyzes kinesics, facial affect, eye contact, body movement and posture, physical characteristics, haptics, chronemics, proxemics, artifacts and environment. Also discusses the prevalent theories underlying nonverbal behavior. (45-0) O

SPH 290-299 Special Projects in Speech/Oral Communications

Surgical Technology Courses ♦♦♦♦♦♦♦♦♦♦

3 Sem Hrs

Prerequisite: BIO 132 or concurrent enrollment in BIO 132. Presents the history of medicine, epidemiological methods, and trends in the health care system. Selected global health care issues are discussed. Includes professional, legal, and ethical aspects of a multidisciplinary care system. (45-0) W

2 Sem Hrs

Prerequisite: Admission to the Surgical Technology program plus concurrent enrollment in ST 110, 120, 130, 140. Introduction to anesthetic agents and other drugs commonly used in the operating room: their actions and uses, how they affect a surgical patient and how to observe for untoward reactions. (30-0) FD

2 Sem Hrs

Prerequisite: Admission to the Surgical Technology program plus concurrent enrollment in ST 107, 120, 130, 140. Basic concepts of operative patient care, such as preparation of patient for surgery, patient transportation, surgical incisions, wound healing, operative records, special procedures in the operating room, and the legal, moral and ethical responsibilities of surgical care. (30-0) FD

6 Sem Hrs

Prerequisite: Admission to the Surgical Technology program plus concurrent enrollment in ST 107,110,130, 140. Roles of surgical team members, sterilization and disinfection methods, surgical instruments, sutures and equipment, electrical safety, patient positioning and preparation, draping the sterile field, and care of supplies. Students begin to develop technical skills through laboratory practice; later operating room observational experiences are provided. (45-120) FD

4 Sem Hrs

Prerequisite: Admission to the Surgical Technology program plus concurrent enrollment in ST 107, 110, 120, 140. Comprehensive regional study of human anatomy as encountered during surgery. Provides the basis for studies of surgical pathology, operative procedures and practical skills of surgical patient care. (45-45)FD

4 Sem Hrs

Prerequisite: Admission to the Surgical Technology program plus concurrent enrollment in ST 107, 110, 120, 130. Selected commonly-performed types of surgical procedures; the pathology leading to surgical intervention, the purposes of the surgery, problems which may arise, and the consequences of the surgery for the patient will be discussed in addition to the basic techniques utilized during the procedure and any special instrumentation. (60-0) FD

12 Sem Hrs

Prerequisite: ST 107, 110, 120,130, 140 each with a minimum C (2.0) grade and consent of program coordinator. Supervised clinical experience in hospital operating room suites. Clinical instructors will evaluate each student's progress in the theoretical, behavioral, and practical application of concepts of surgical technology. (0-540) WD

3 Sem Hrs

Prerequisite: Concurrent enrollment in ST 200. Patient-monitoring devices and diagnostic tests, abnormalities and correlations with surgical patient conditions, and surgery for traumatic injuries. Discussion of students' clinical experiences, the professional role of the Surgical Technologist, general review, and assigned research studies. (45-0) WD

ST 290-299 Special Projects in Surgical Technology

Water/Wastewater Treatment Technology Courses ♦♦♦♦ ♦♦

3 Sem Hrs

A study of the processes used to produce and distribute a portable water supply for municipal and industrial use. Well fields, treatment techniques, and distribution systems are analyzed. (45-0) WE

3 Sem Hrs

A study of the various methods used to treat municipal and industrial wastewaters. Physical, chemical and biological methods are stressed. Collection systems and ultimate disposal or water reuse is also included.
(45-0) FE

4 Sem Hrs

Prerequisite: CHM 111 and MTH 111, or permission of instructor. A study of the gravimetric, volumetric, and colorimetric analyses utilized in the production of a potable water supply; the treatment of wastewaters; and investigations of environmental pollution. (30-75)

3 Sem Hrs

Prerequisite: MTH 111. A study of the mechanics of fluids. Fluids at rest and flowing in pipe systems and open channels of water distribution and wastewater systems: sewage collection systems and treatment plants are investigated. Metering and pumping are included. (45-0) O

3 Sem Hrs

Prerequisite: WWT 110, WWT 112, WWT 240. Provides the student with basic knowledge of mechanical equipment and repair techniques used in both water and wastewater facilities. Shop drawings and blueprints are used during the disassembly and reassembly of a variety of mechanical devices. Pumps, valves, piping systems, and chlorination equipment are studied. (45-0)

2 Sem Hrs

Prerequisite: WWT 110, WWT 112. A study of basic electricity and the instrumentation utilized in water and wastewater treatment facilities. Emphasis is placed on the use of testing equipment to troubleshoot electrical and instrumental failures, maintenance problems, and to evaluate the performance of equipment. Energy conservation methods are also studied. (30-0)

Skilled Trades Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦

SKCA 110 CAD/CAM System Orientation 2 Sem Hrs

Prerequisite: SKDR 111. An introduction to the Delta CAD/CAM Lab, policy, procedures, ANVIL-4000 software, Tektronix Terminals and PRIME CPU hardware. Students will learn log in and log out procedures, all main menus, will generate points, lines, arcs and circles, and will manipulate screen display control, database management, and filing. Hands-on activities will include the use of the menus in the construction of several drawings. (30)

SKCAD 114 AutoCAD Introduction 2 Sem Hrs

Prerequisite: SKDR 101 or permission of department. AutoCAD software used to draft two dimensional multiview drawings and three dimensional wire frame constructions. Completed projects include arrays, blocks, assigned properties, notations, and dimensions. Knowledge of the software, hardware and the MS-DOS operating system is acquired in the process of developing a Computer Aided Design and Drafting drawing for multi-pen plotting. Credit may be earned in either SKCAD 114 or CAD 114 but not both. (30)

SKCT 101 Industrial Millwright Procedures 3 Sem Hrs

Prerequisite: SKDR 101. A course for millwrights emphasizing blueprint reading, layout of typical industrial construction, equipment, and safety and guarding. Topics covered include plan and elevation prints of building footings and foundation, mechanical services, equipment and machinery foundations, ventilation systems, catwalks, decking, platforms, and various conveying systems. (45)

SKCT 102 Building Materials 3 Sem Hrs

To learn development, properties, and composition of various building materials. To develop perception for economical and appropriate application of building materials. To learn various sources of technical data about residential and industrial building materials. To develop skills of building material application. (45)

SKCT 105 Building Site Surveying 3 Sem Hrs

Prerequisite: SKCT 114. Course designed to introduce students to the tools and instruments used for surveying. Methods and procedures of developing and building layout are also included. (45) O

SKCT 106 Concrete and Foundations 4 Sem Hrs

Prerequisite: SKCT 102. A study of the practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, sidewalks, patios, etc. (45-30) O

SKCT 111 Construction Print Interpretation 3 Sem Hrs

Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. Credit may be earned in either SKCT 111 or RC 101 but not both. (45)

SKCT 113 Carpentry Math 2 Sem Hrs

Prerequisite: Students scoring 19 or higher on the numerical skills portion of ASSET can waive this course. Acquaints student with basic mathematical processes relating to construction and includes practical demonstrations. Covers fractions, decimals, ratios and percentages. Credit may be earned in either SKCT 113 or RC 113 but not both. (30)

SKCT 114 Framing Square 3 Sem Hrs

Prerequisite: RC 113, or a score of 19 or higher on the numerical skills portion of ASSET. The use of the framing square in construction. Credit may be earned in either SKCT 114 or RC 114 but not both. (45)

SKCT 201 Rough Framing and Outside Framing 4 Sem Hrs

Prerequisite: SKCT 114. Instruction is given in the construction of techniques used in all phases of framing and exterior finishing. (30-60) O

SKCT 204 Inside Finishing and Hardware 3 Sem Hrs

Prerequisite: SKCT 114. Instruction includes principles of interior construction, joinery and installation, and finishing of all types of interior trim. (45-30) O

SKCT 205 Cabinet Making and Millwork 5 Sem Hrs

Prerequisite: SKCT 204. A study is made of the construction of, the placement of, and installation procedures of cabinets used in residential and commercial building. (45-60) O

SKDR 101 Sketching and Blueprint Reading 4 Sem Hrs

Topics include: The graphic language and design, lettering, sketching, and shape descriptions, multiview projections, sectional views, auxiliary views, shop processes, threads fasteners and springs, and print reading of typical shop blueprints. (60) A

SKDR 111 Drawing II 3 Sem Hrs

Prerequisite: SKDR 101. A continuation of SKDR 101. Topics include multiview and pictorial sketching and drawing, sections drawing, dimensioning and tolerancing. (45) FW

SKDR 121 Descriptive Geometry 3 Sem Hrs

Prerequisite: SKDR 111. Topics include orthographic projections, primary auxiliary views and lines, planes; successive auxiliary views, piercing points, intersection of planes, and angle between planes. (45) O

SKDR 128 Geometric Tolerancing 2 Sem Hrs

Prerequisite: SKDR 111 or permission of department. Primary emphasis is on geometric symbols used in place of written notes on industrial drawings including datums, symbols, and other items tolerancing to the geometry of the part. Credit may be earned in either SKDR 128 or DRF 128 but not both. (30) O

SKDR 130 Tool and Die Design 4 Sem Hrs

Prerequisite: SKDR 111. Topics include: design of jigs and fixtures, design of gaging mechanisms, design of automatic tooling, machining cost calculations. The student will use this data to make class presentations with questions and answer sessions. (60) W

SKDR 131 Pattern Design I 3 Sem Hrs

Prerequisite: SKDR 111. Course covers terms and definitions of pattern design. Students will learn how to make calculations from tables and drawing, estimate weights from pattern charts and materials codes, and sketch and detail typical pattern designs. (45) W

SKDR 132 Pattern Design II 2 Sem Hrs

Prerequisite: SKDR 131. A continuation of Pattern Design I with emphasis placed on specialty projects representative of the trade area. (30) O

SKDR 141 Pipe and Tube Isometrics 3 Sem Hrs

Sketching course for industrial pipefitters includes all mensurations for layout and construction. (45) F

SKEL 101 Basic Electronics 6 Sem Hrs

Prerequisite: SKMA 113. The first course in a series to train electrician apprentices in the theory and application of electronics to industrial control systems. Basic electronic devices will be discussed, along with how they work and their electrical characteristics. Simple electronic circuits will be set up on trainers to illustrate the application of the devices. Troubleshooting techniques and basic test instruments will be discussed and used. (90) F

SKEL 102 Industrial Electronics 4 Sem Hrs

Prerequisite: SKEL 101. The second course in a series to train electrician apprentices in the theory and application of electronics to industrial control systems. Application of basic electronic devices to industrial control systems will be discussed. Major topics will be digital solid state logic and power control using SCR's and TRIAC's. Troubleshooting techniques and basic test instruments will be discussed and used. (60) W

SKEL 106 Electricity I Applied 2 Sem Hrs

Designed to acquaint the student with basic concepts of electricity, including history, terminology, code development, licensing, alternating and direct current/voltage theory, simple circuit calculations, schematics, residential electrical, electrical components and control circuits. (30)

SKEL 107 Electricity II Applied**2 Sem Hrs**

Prerequisite: SKEL 106. Designed to further the study of electrical applications. Students should have prior understanding of basic electrical terms, as well as some ability to solve problems in a series of parallel circuits. The course will provide an in-depth study of frequency, inductance, capacitance, three-phase power, peak-effective-average voltage, circuits that contain resistors, coils, and capacitors, lost power and power factor correction, and impedance. A review and pre-test will be given the first night of class. (30)

SKEL 111 Conventional Controls**3 Sem Hrs**

This course is the first of a series of courses on conventional industrial controls. Topics include an overview on control systems, construction of control components, control input devices, system design, control blueprint reading and troubleshooting. Credit may be earned in SKEL 111 or SKOT 191 but not in both. (45) FW

SKEL 121 Advanced Controls I**4 Sem Hrs**

Prerequisite: SKEL 102. Topics include: vacuum and vapor tubes, resistance welding controls, induction heating, motors, inverters, polyphase rectifiers, op-amps transducers, instrumentation, closed loop controls, servo systems, temperature controls, troubleshooting. (75) F

SKEL 122 Advanced Controls II**4 Sem Hrs**

Prerequisite: SKEL 121. Present students with basic concepts and hands-on experience with programmable digital control systems. Emphasis placed on hardware, program (software) entry, R-T-C math, documentation, trouble-shooting, communication links (generic) and peripheral equipment. (60) W

SKEL 131 AC/DC Machinery**3 Sem Hrs**

Prerequisite: SKMA 113. This course is one in a series of courses on conventional industrial controls. Topics include physics of electromotive forces, armature reaction, induction, DC generator types, AC generators, DC motors, DC motor starters, transformers, AC motors and variable speed drive systems. (45) S

SKEL 141 Electrical Shop**3 Sem Hrs**

The first 30 hours of class is spent on the National Electrical Code and the JIC Code for mass production equipment. The final 15 hours in the class cover principles of power hydraulics, directional controls, hydraulic pumps, accessories, and industrial hydraulic circuits. (45) S

SKMA 101 Apprentice Mathematics I**2 Sem Hrs**

Review of basic mathematics principles. Topics include: whole numbers, fractions, decimals, percents, metric system, operations of polynomials, rational numbers, polynomials, equations, exponents, and radicals. (30) A

SKMA 102 Mathematics II**4 Sem Hrs**

Prerequisite: SKMA 101. Introduction to algebra. Topics include: linear equations with applications, exponents and radicals, quadratic equations, ratio, proportion, and variation. (60) FW

SKMA 103 Mathematics III**4 Sem Hrs**

Prerequisite: SKMA 102. Introduction to geometry and trigonometry. Topics include area and volume formulas with practical applications of screw, screw threads, belts, pulleys, gear wheels, and use of electronic calculator. (60) FW

SKMA 111 Applied Integrated Electrical Math I**3 Sem Hrs**

Prerequisite: High school algebra or equivalent. This course is the first of a series of electrical mathematics courses which is intended to give an electrical apprentice the necessary background to maintain and service industrial control equipment. Included is the study of basic concepts of electricity, the mathematical solution of DC circuits, and basic circuit laws. Although mathematics as applied to electrical circuits will be studied, it is assumed that students entering this course will have a basic understanding of mathematics through high school algebra. (45) F

SKMA 112 Applied Integrated Electrical Math II**5 Sem Hrs**

This course is the second in a series of electrical mathematics courses intended to give an electrical apprentice the necessary background to maintain and service industrial control equipment. It will include the

study of basic concepts of efficiency, inductance, magnetism, meters, transformers, wire sizes, and alternating current. Instruction in trigonometry will be provided to assure the student has a basic understanding in the area. (75) W

SKMA 113 Applied Integrated Electrical Math III**3 Sem Hrs**

Prerequisite: SKMA 112. This course is the third in a series of electrical mathematics and circuit analysis intended to give an electrical apprentice the necessary background to maintain and service industrial control equipment. It will include a study of capacitance, capacitive reactance, vectors, phasers, series AC circuits, power factor and three-phase systems. Trigonometry and pythagorean mathematics will be used in the computation of the phase relationships of the various quantities studied. (45) S

SKMA 115 Mathematics-Electrician/Process Instrument Trainee**5 Sem Hrs**

(Contract Only) This course is designed to provide electricians and process instrument trainees with sufficient mathematics prior to their required electrical theory courses. Topics covered include review of arithmetic and signed numbers, powers and roots, scientific notions, units and rounding, graphs, ratio and proportion, algebra, basic trigonometry, and vectors. (75) O

SKMT 101 Hydraulics and Pneumatics I**3 Sem Hrs**

Beginning course in oil and air fluid power systems commonly found in industry. Specifically the study of the physical description, function and application of components. Topics include pumps, compressors, actuators, valves, conditioners, instruments, air/oil components, fluid properties, and their representative graphic symbols. (45) FW

SKMT 102 Hydraulics and Pneumatics II**3 Sem Hrs**

Prerequisite: SKMT 101. Advanced course in fluid power designed for machine repair, pipefitters and plumber trades. Analysis of common hydraulic and pneumatic components and circuits. Includes building of machine tool circuits and troubleshooting. Special systems such as hydrostatic transmissions and electrohydraulic servos, and ladder diagramming of pneumatic control circuits. Mathematics and graphic symbols used in troubleshooting. (45) WS

SKMT 111 Metals**3 Sem Hrs**

Topics covered are temperature measurement by color, hardness, strengths, fatigue properties, steels, plastics, cast iron, copper, brass, bronze, aluminum, their applications with respect to wear, corrosion, and design. Credit may be earned in SKMT 111 or WELD 111 but not in both. (45)WO

SKMT 112 Ferrous Heat Treatment**2 Sem Hrs**

Designed to acquaint students with various forms of heat treatment applied to plain carbon steels, cast iron, alloy tool steel, and stainless steel. Course will also include steel classification and machinability. (30) O

SKMT 151 Power Transmission**3 Sem Hrs**

Fundamentals of power transmission including bearings, chain drives, clutches and brakes, conveyor components, shaft couplings, flat belt drives, open gear drives, enclosed gear drives, electric motors, toothed belt drives, V-belt drives, variable speed drives, and specialties. (45) W

SKMT 161 Industrial Rigging and Safety**2 Sem Hrs**

This course is a study of the methods of safe transfer of loads, it provides comprehensive, easy-to-understand, and reliable information of the entire field of rigging operations. It also discusses techniques and methods to accomplish the rigger's task with the greatest safety for all of the workers on a project, as well as for passers-by and the public in general. "Safety is no accident" is stressed. (30) FW

SKMT 171 Sheetmetal I**2 Sem Hrs**

Development of geometrical elements of structures, their intersections by radial and triangulation methods of sheetmetal layout, the drawing of development layouts and the forming of actual models with sheetmetal. (30) FW

SKMT 172 Sheetmetal II**3 Sem Hrs**

Prerequisite: SKMT 171. Continuation of Sheetmetal I. Projects involve fabrication of complex pieces to actual specification using tools common to the trade. (45) FW

SKMT 173 Sheetmetal III**3 Sem Hrs**

Prerequisite: SKMT 172. Continuation of Sheetmetal Layout II. Emphasis placed on the layout and construction of patterns found in the industrial plant. Special projects will be assigned. (45) WS

SKMT 231 Fundamentals of Foundry Technology**3 Sem Hrs**

Prerequisite: Foundry experience or permission of department. Provides an overview of all the components that make up a modern foundry. Participants will become familiar with the interrelationship between the metallurgy, melting, production engineering, core, molding, finishing, and reliability and quality control departments. Special emphasis is placed on how each department is dependent upon the other and what affect each has on the production of a quality product at a competitive cost, through the use of a statistical process control. (45) O

SKMT 232 Foundry II**3 Sem Hrs**

Prerequisite: SKMT 213. Continuation of Foundry I course with emphasis on the design and applications in foundry operations. (45) O

SKOT 191 Machine Controls I**3 Sem Hrs**

This course is the first of a series of courses on conventional industrial controls. Topics include an overview on control systems, construction of control components, control input devices, system design, control blueprint reading and troubleshooting. Credit may be earned in either SKOT 191 or SKEL 111 but not in both. (45) FW

SKOT 192 Machine Controls II**3 Sem Hrs**

Prerequisite: SKOT 191. Machine Controls II is a continuation of Controls I with special emphasis placed on diagnostic troubleshooting techniques. Primary objective of the course is to enable maintenance personnel to discuss machine functions or malfunctions with machine and control system designers. The course will also benefit toolmakers and machine builders to understand the overall operation of complex machinery they build and/or assemble. (45) O

SKPH 101 Applied Physics**4 Sem Hrs**

Prerequisite: SKMA 103. Metric measurement, means of physical description, review of applied plane and solid geometry, matter, mechanical properties of solids, fluids, review of trigonometry as related to force and acceleration, static equilibrium energy and power related to ability to do work, friction and its effects, simple machines, hydraulic and pneumatic principles, fluids in motion, water and airwaves, temperature, heat transfer, electricity, magnetism and alternating currents. (60) FW

SKPT 101 Industrial Piping**4 Sem Hrs**

Basic sanitation principles, terminology, materials classification, drainage systems, waste disposal system, pipe sizing and layout. Industrial piping situations involving gasoline, acid plating solutions, gases, safety, code requirements. (60) W

SKPT 106 Pipefitters Handbook**3 Sem Hrs**

Prerequisite: SKMA 103. Review of mathematical calculations including geometry and trigonometry. Includes: pipe bends, linear expansion of piping, tank capacities, leverage, methods of layout angles, pipe-fitting calculations, pipe-welding layout, and reference tables. Credit may be earned in SKPT 106 or WELD 112 but not in both. (45-0) S

SKPT 111 Stationary Boiler Engineering I**2 Sem Hrs**

Orientation to power plant operations including boiler safety rules and regulations. General operating procedures for various types of boilers, uses and types of fuels and their sources; elementary chemistry of combustion. Credit may be earned in either SKPT 111 or CVI 1037 but not in both. (30) F

SKPT 112 Stationary Boiler Engineering II**2 Sem Hrs**

Prerequisite: SKPT 111 or permission of department. This course includes boiler settings, combustion equipment, operation and maintenance of boilers, pumps, reciprocating steam engines, valve operating mechanisms. Credit may be earned in SKPT 112 or CVI 1038 but not in both. (30) W

SKPT 113 Stationary Boiler Engineering III**2 Sem Hrs**

Prerequisite: SKPT 112 or permission of department. Automatic boiler operation. Forced and induced draft systems. Steam turbines and auxiliaries, auxiliary steamplant equipment, cooling towers, boiler feed

water treatment and heating. Credit may be earned in SKPT 113 or CVI 1039 but not in both. (30) F

SKPT 114 Stationary Boiler Engineering IV**3 Sem Hrs**

Prerequisite: SKPT 113 or permission of department. This course includes air compressors of the following types: centrifugal, rotary screw, large reciprocating compressors and drives; boiler feed water chemical treatment. Credit may be earned in either SKPT 114 or CVI 1040 but not in both. (30) W

SKPT 121 Refrigeration and Air Conditioning**3 Sem Hrs**

Principles of air conditioning and heating. Content includes the basic refrigeration cycle, comfort cooling systems, trouble shooting, installation, selection of equipment, heating systems, control units, and humidifiers. Credit may be earned in either SKPT 121 or CVR 1001 but not in both. (45) FW

SKPT 122 Domestic Refrigeration I: Household Units**3 Sem Hrs**

Prerequisite: SKPT 121 and SKMA 111. Information needed to understand and repair dehumidifiers and air conditioners. Primary focus will be on hands-on troubleshooting both the electrical and sealed system components. Credit may be earned in either SKPT 122 or CVR 1002 but not in both. (45)

SKPT 123 Commercial Refrigeration I**3 Sem Hrs**

Prerequisite: SKPT 122. Information and hands-on tasks needed to properly install components and troubleshoot light commercial units. Credit may be earned in either SKPT 123 or CVR 1003 but not in both. (45)

SKPT 124 Domestic Refrigeration II: Household Units**3 Sem Hrs**

Prerequisite: SKPT 122 and SKMA 111. Troubleshooting domestic refrigeration systems. Primary focus will be on the electrical components and system parts in frost-free, conventional and cyclematic units. Credit may be earned in either SKPT 124 or CVR 1004 but not in both. (45)

SKPT 125 Commercial Refrigeration II**3 Sem Hrs**

Prerequisite: SKPT 123 and SKMA 111. Proper wiring of electrical controls and components in circuits and troubleshooting electrical problems. Credit may be earned in either SKPT 125 or CVR 1005 but not in both. (45)

SKPT 126 Air Movement and Duct Design**3 Sem Hrs**

Prerequisite: SKMT 123 or permission of department. A study of air handling for air conditioning, heating, and ventilation, including air duct design and psychometric problems of design and installation. (45) O

SKTR 181 Machine Tool I**2 Sem Hrs**

Introduction to the industrial machine shop. Topics include: Safety, materials, hand tools, precision instruments, and purpose and operation of machine tools. (30) FW

SKTR 182 Machine Tool Lab II**3 Sem Hrs**

Prerequisite: SKTR 181 or permission of department. Purpose of course is to expose apprentice to a variety of special machine shop operations/procedures not normally available in early stages of the apprentice's on-the-job training. (45) FW

SKTR 183 Machinery Handbook**3 Sem Hrs**

Prerequisite: SKTR 182 and SKMA 103. This course is devoted to learning how to use and understand the Machinery Handbook. (45) F

SKTR 260 Numerical Controls I**3 Sem Hrs**

Prerequisite: SKTR 182 and SKMA 103 or permission of department. Emphasis on manually programming machines with various capabilities. Absolute & incremental positioning systems, fixed sequential; tab sequential, work address formats; machines with two & three axis control. Advantages/disadvantages of NC machines. (45) FW

SKTR 261 Computer Numerical Control Programming II**3 Sem Hrs**

Prerequisite: CNC 160. Advanced training in computer assisted programming methods for numerical controlled machining. Various programming languages will be taught with emphasis placed on Compact II and Encode. Computer terminals will be utilized in the application of both Compact II and Encode programming. Credit may be earned in either SKTR 261 or CNC 161 but not in both. (45) W

SKWL 101 Fuel Gas Welding and Cutting**3 Sem Hrs**

Topics include safety in use of equipment for oxy-fuel gas welding and cutting, and equipment set-up. Laboratory experience includes oxy-fuel welding of flat strips 1/8" or less in thickness, and cutting, beveling, and piercing plate and pipe. Credit may be earned in either SKWL 101 or Weld 103 but not in both. (45)

SKWL 104 Introduction to Shielded Metal Arc Welding**3 Sem Hrs**

Topics include safety indoctrination, safety in arc welding, welding terms and definitions, electrode selection, and welding joints. Laboratory includes striking an arc, running beads, pad welding, and fillet welds. Credit may be earned in either SKWL 104 or Weld 104 but not in both. (45)

Welding Courses ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦♦♦♦ ♦♦

WELD 101 Fuel Gas Welding, Cutting, Brazing**1 Sem Hr**

Topics include safety in the use of oxy-fuel equipment, procedures, and operations. Understanding the proper applications of common techniques for the joining and severing of metals. (5-15) O

WELD 103 Fuel Gas Welding and Cutting**3 Sem Hrs**

Topics include safety in use of equipment for oxy-fuel gas welding and cutting, and equipment set-up. Laboratory experience includes oxy-fuel welding of flat strips 1/8" or less in thickness, and cutting, beveling, and piercing plate and pipe. Credit may be earned in either WELD 103 or SKWL 101 but not in both. (45-0) A

WELD 104 Introduction to Shielded Metal Arc Welding**3 Sem Hrs**

Topics include safety indoctrination, safety in arc welding, welding terms and definitions, electrode selection, and welding joints. Laboratory includes striking an arc, running beads, pad welding, and fillet welds. Credit may be earned in either WELD 104 or SKWL 104 but not in both. (45-0) FW

WELD 105 Mig Welding of Thin Gauge Steel**1 Sem Hr**

Topics include proper set-up of the Mig equipment and proper adjustment of the welding parameters. Understanding the proper applications of common techniques for the joining of this gauge steel. (5-15) O

WELD 110 Math for Welders and Fabricators**5 Sem Hrs**

Satisfies the math needs of tradespeople in the welding field. Topics covered are whole numbers, fractions, decimals, metric conversions, precision instruments, ratio and percent, algebra, applied geometry, shop trigonometry, tapers, gears, belt and chain speeds, cutting speeds and feeds, and screw threads. Credit may be earned in WELD 110 or MT 110 but not in both. (75-0) WD

WELD 111 Welding Metallurgy**3 Sem Hrs**

Covers temperature measurement by color, hardness, strengths, fatigue properties, steels, plastics, cast iron, copper, brass, bronze, aluminum, their applications with respect to wear, corrosion, and design. Credit may be earned in WELD 111 or SKMT 111 but not in both. (45-0) FD

WELD 112 Pipefitter's Handbook**3 Sem Hrs**

Prerequisite: WELD 110 or MT 110. Reviews mathematical calculations including geometry and trigonometry. Includes: pipe bends, linear expansion of piping, tank capacities, leverage, methods of layout angles, pipefitting calculations, pipe welding layout, and reference tables. Credit may be earned in WELD 112 or SKPT 106 but not in both. (45-0) SD

WELD 114 Shielded Metal Arc Structural and Tank**6 Sem Hrs**

Prerequisite: Successful completion of WELD 104 (300) with a C (2.0) minimum grade or permission of instructor. Topics include heat effects on metal, structural strength of welds, and basic AC/DC electricity as used for arc welding. Laboratory includes machine set-up, welding open butt root and filler passes on plate in a variety of positions. (90-0) FW

WELD 115 Gas Metal Arc Plate**2 Sem Hrs**

Topics include theory of the gas metal arc process using solid wire and flux core, and set-up of equipment. Laboratory includes plate welding in a variety of positions. (30-0) FW

WELD 120 Beginning Industrial Blueprint Reading**2 Sem Hrs**

Designed for machine operators, welders, or assemblers with little or no blueprint reading experience. Includes manipulation of basic fractions and decimals and as applied to the reading of blueprints, reading measuring instruments, basic geometric figures, drafting and blueprinting procedures, basic orthographic projection, auxiliary and sectional views, detail and assembly drawings, dimensioning and tolerances, title block, change block, list of materials, and notes. Credit may be earned in WELD 120 or DRF 120 but not in both. (30-0) WD

**WELD 122 Blueprint Reading for Welders
and Fabricators**
2 Sem Hrs

Prerequisite: WELD 120 or DRF 120. Designed specifically for welders and fabricators working with welding drawings. A more in-depth treatment of basic blueprint information, orthographic projection, assembly drawings, and geometric tolerancing. Emphasis placed on welding symbols and welding drawings. Credit may be earned in WELD 122 or DRF 122 but not in both. (30-0) SD

WELD 219 Shielded Metal Arc Qualifying Plate**2 Sem Hrs**

Prerequisite: Successful completion of WELD 114 (302) with a C (2.0) minimum grade or permission of instructor. Students perform qualification tests on plate using the shielded metal arc process in a variety of positions. Test coupons are checked by destructive and/or non-destructive methods, and copies of the qualification test results are provided to the students at the completion of the course. (30-0) FS

WELD 224 Shielded Metal Arc Pipe**6 Sem Hrs**

Prerequisite: Successful completion of WELD 114 (302) or WELD 219 (324) with a C (2.0) minimum grade or permission of instructor. Topics include theory of uphill pipe welding techniques, fit-up, and positioning. Laboratory includes open root pipe welding in a variety of positions using the E6010 and E7018 electrodes. (90-0) WS

WELD 225 Gas Metal Arc Pipe**2 Sem Hrs**

Prerequisite: Successful completion of WELD 115 (320) with a C (2.0) minimum grade or permission of instructor. Topics include theory of pipe welding techniques for gas metal arc welding pipe. Laboratory includes using the gas metal arc process to weld pipe. (30-0) A

WELD 226 Gas Tungsten Arc Welding**5 Sem Hrs**

Topics include theory of the gas tungsten arc process, set-up of equipment, and techniques used for welding pipe and/or plate. Laboratory includes gas tungsten arc welding of ferrous pipe and/or ferrous and non-ferrous plate. (75-0) A

WELD 229 Shielded Metal Arc Qualifying Pipe**2 Sem Hrs**

Prerequisite: Successful completion of WELD 224 (303) with a C (2.0) minimum grade or permission of instructor. Students perform qualification tests on pipe using the shielded metal arc process in a variety of positions. Test coupons are checked by destructive and/or nondestructive methods, and copies of the qualification test results are provided to the students at the completion of the course. (30-0) FS

WELD 239 GMAW/GTAW Qualifying**2 Sem Hrs**

Prerequisite: Successful completion of WELD 225 (321) and WELD 226 (306) with a C (2.0) minimum grade or permission of instructor. Students perform qualification tests using the gas metal arc and gas tungsten arc processes on pipe in a variety of positions. Test coupons are checked by destructive and/or nondestructive methods, and copies of the qualification test results are provided to the students at the completion of the course. (30-0) FS

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NOTES

REGULATIONS AND REFERENCES

- 1. Students' Rights, Responsibilities, and Conduct**
- 2. Safety and Security Information of 1992**
- 3. Parking and Traffic Regulations**
- 4. Health Issues**
- 5. Records Access and Confidentiality**
- 6. The Delta Directory**
- 7. Definitions of College Terms**
- 8. Index**
- 9. Maps**

Students' Rights, Responsibilities, and Conduct

In joining the academic community, students enjoy the right of freedom to learn and share the responsibility in exercising that freedom. Students are expected to conduct themselves in accordance with standards which are designed to perpetuate the educational purposes of the College.

The College has developed procedures and channels by which students may have a fair and objective hearing for their grievances in regard to academic evaluation, students' rights and privacy, and disciplinary action. Students have the right of protection against prejudice, capricious academic evaluation, or loss of personal rights and freedom. At the same time, however, students are responsible for maintaining standards of academic performance established for each course in which they are enrolled and for following the rules of conduct established by the College.

Association and Expression

A. Students are free to organize and join associations to promote their common interests. In order to use College facilities and resources and to request financial assistance from the College for programming, student groups are required to register with the Vice President of Student Services' Office, submitting a statement of purpose and a current list of officers or designated representatives. Groups are also encouraged to choose a faculty or staff advisor to assist them.

B. Students and student organizations are free to examine and discuss all questions of interest to them and to express opinions publicly and privately, including their views on issues of College policy.

C. Generally, students or student organizations may distribute written material without prior approval. Hand-to-hand distribution shall be permitted in areas of public passage (commons, hallways, sidewalks, etc.), providing distribution does not interfere with normal College activity or routine. Posting and other types of distribution shall be limited to those places established by written College regulations.

D. Students and student organizations are free to invite speakers, to hear any person, and to plan programs of their own choosing subject only to those written requirements established by the College to ensure proper scheduling and use of facilities.

E. No policy, procedure, or guideline of Delta College shall discriminate on the basis of the political, social, or other opinions of students individually or collectively.

F. No record will be kept by Delta College which reflects the lawful political activities or beliefs of students, unless requested by the student in writing. Information about a student's views, beliefs, and/or political associations acquired by the faculty or other College employees in the normal course of their work will be considered confidential and will not be disclosed without the knowledge and consent of the student unless under legal compulsion.

G. Nothing in this policy shall be construed to imply approval or endorsement by Delta College of the views expressed by students or student organizations.

H. Nothing in this policy shall be construed to relieve any person of obligations under Regulations and Rules of Conduct.

Regulations and Rules of Conduct

I. Introduction

A. **General Responsibility:** Delta College has the responsibility to adopt and enforce rules which are consistent with Delta College goals and operations and to establish due process procedures in disciplinary cases.

B. **Authority to Establish Standards of Conduct:** Standards of conduct are established by rules of the College, as adopted by the Board of Trustees, and made known through College publications or by notices distributed or prominently posted on College Bulletin Boards; and by laws of the United States, State of Michigan and County of Bay (public laws).

Except in the case of interim or emergency rules as granted by Michigan Public Act No. 26 of 1970, such regulations shall be established and amended with the advice of the College Senate. Final authority is through either the Delta College Board of Trustees or the laws of the United States, State of Michigan, or County of Bay.

C. **Individual Responsibility:** An individual having an institutional relationship to Delta College (members of College community) is automatically placed under the rules of the College. "Institutional relationship to the College" means any connection of employment, enrollment, or service existing between any person and Delta College. As used herein, this phraseology is intended to prevent the application of these rules to purely personal or social relationships between or among students, faculty members, administration, or staff members outside the College proper. It is therefore important for all members of the College community to familiarize themselves with the rules and regulations affecting them.

D. **Effect of Violating Rules:** A member of the College community violating any of the rules of the College or a public law, on-Campus or off-Campus, at a Delta College-sponsored activity, is subject to disciplinary action by Delta College that is appropriate to the nature of the offense. Such disciplinary action will be taken in accordance with the procedures governing cases of violations as outlined in the Delta College judicial process.

E. **Reports of Violations:** Reporting of violations shall be within the province of all members of the College community, because they have a common responsibility in maintaining an orderly and efficient community for their mutual benefit. Violations may fall in one of several categories: 1. Minor offenses which are dealt with by reprimand; 2. Violations by students which are to be reported to the Office of the Vice President of Student Services; 3. Violations by faculty or staff members which are to be reported to the Office of the President; and 4. Civil or criminal violations which are to be reported to the Campus Police Department.

F. **Severance Provision:** If any of the foregoing rules or any part of any such rule shall be adjudged invalid by a court of competent jurisdiction, then such adjudication shall not affect the validity of these rules as a whole or any provision or part of any such rules not so adjudged invalid.

II. Rules and Regulations

A. **Physical Force:** No member of the College community shall use physical force, threaten physical force, or use intimidation against any person engaged in an activity properly undertaken as part of an institutional relationship of the College except as permitted under normal law enforcement procedures.

B. **Disruption:** No member of the College community shall interfere with a College function by depriving any person of needed safety, quiet, or other physical conditions of work or study.

<p>C. Interference: No member of the College community shall interfere with the free movement of any person engaged in an activity properly undertaken as part of an institutional relationship to the College.</p>	<p>N. Drugs: No member of the College community shall possess, distribute, or use any prohibited drug in either the refined or crude form, nor shall any member of the College Community possess property which is used, or intended for use, as a container for any controlled substance except controlled substances for personal usage, which must be under the current prescription of a licensed physician, those specifically authorized to Delta College by federal or State authorizing agencies for educational purposes.</p>
<p>D. Compliance: In keeping with the system of voluntary compliance that underlies the College Regulations and Rules of Conduct, no member of the College community shall fail to follow the reasonable instructions given by an appropriate College official to cease specified conduct, if such conduct threatens disruption or interference with the rights of others, College discipline, College functions, and/or order in the College community.</p>	<p>O. Smoking Policy: In the interest of providing a safe and healthy environment, all Delta College buildings are smoke-free. This action is in accordance with the Michigan Clean Indoor Act, Pt. 126 of the Public Health Code P.A. 368 or 1978.</p>
<p>E. Identification: No member of the College community shall refuse to provide identification when requested to do so by an identified employee of the College.</p>	<p>P. Selling, Soliciting, and Distributing: Any person who wishes to distribute, solicit, or sell information, materials, goods, or services not within the normal College activities and routine, must have the written permission of the Vice President of Student Services or the Vice President of Business and Finance or their designee.</p>
<p>F. Forbidden Occupation: No member of the College community shall, subsequent to reasonable notice to leave given by the College President or the authorized designee, continue occupation of any College facility or property which is under the direct control or responsibility of the College, especially if such occupation interferes with a College function or risks injury to a person or property.</p>	<p>Q. Animals: People may not bring animals on Campus or into College buildings. Leader dogs and animals used for educational purposes are exceptions; however, all animals must remain under the control of their owners and be properly licensed and medically treated as required by law.</p>
<p>G. Facility Entry and Usage: No member of the College community shall gain or attempt to gain unauthorized entry to or make unauthorized use of the College facilities or property.</p>	<p>R. Federal, State, and Local Laws: Violations of Federal, State, or local laws on-Campus, or off-Campus in connection with College-sponsored activities shall constitute violations of College rules.</p>
<p>H. Property: No member of the College community shall damage, deface, destroy, steal, or misappropriate the property of the College, any member of the College community, or any visitor to the College Campus.</p>	<p>S. Plagiarism and Honesty in Academic Work: See Section IV, Academic Policies and Information.</p>
<p>I. Unauthorized use of College Credit, Property, Etc.: No unauthorized member of the College community shall use the College telephones, postal machines and meters, duplicating machines, computer, motor vehicles, or other equipment where the unauthorized use of such results in the incurring of charges by the College. This provision shall be deemed to also include College billing, charging, and credit card numbers utilized for communications or transportation purposes. Further it shall be a violation for any member of the College community who has not been issued a key by the College to possess or use College keys for any purpose whatsoever.</p>	<p>Questions regarding the rights and responsibilities of Delta College students and guests should be addressed to the Office of the Vice President of Student Services, phone 686-9339.</p>
<p>J. Counterfeiting, Altering, and Copying: No member of the College community, with intent to injure or defraud, shall falsely make, forge, manufacture, print, reproduce, copy, tamper with, or alter any writing, document, record, or identification used or maintained by the College or by members of the College community.</p> <p>No member of the College community shall knowingly possess, display, or cause or permit to be displayed any writing, record, document, or identification form used or maintained by the College or by members of the College community, knowing the same to be fictitious, altered, forged, counterfeited, or made without authority.</p>	<p>Posting Policy</p> <p>Students wishing to post advertisements (sale items, spring break trip posters, lost and found, etc.) are required to take such advertisements to the Office of the Vice President of Student Services located in A-119. All advertisements will be posted for a maximum of 30 days and will be removed the last working day of every month. Advertisements are limited to 25 pieces of material and must be distributed accordingly throughout the designated posting areas. Metal strips in the East and West Halls (Main Building) are reserved specifically for Delta College-related materials.</p> <p>Areas of Posting:</p> <p>Advertisements may be posted in the following locations:</p> <ul style="list-style-type: none"> • The bulletin board in the North Hall (South of the Pioneer Gym) • The bulletin boards in the South Hall (South entrance of Delta College) • The bulletin boards in the East and West Halls (Main Building) • The bulletin board in the Fine Arts Building (S Building) • The bulletin board in the Allied Health Building (F wing) • The bulletin board in the Delta Commons <p>Student advertisements posted in any other location will be removed.</p> <p>Exceptions: An exception to the above will be approved during the two weeks preceding a Student Senate election, when candidates for Student Senator will be allowed to post election material throughout the College. Materials must be removed the day following the election. Other exceptions will be at the discretion and approval of the Vice President of Student Services.</p>
<p>K. Confidentiality of College Records: No person shall inspect, investigate, or use College files (i.e., counseling, financial aid, placement, records, registration) without proper College authorization.</p>	
<p>L. Firearms and other Dangerous Materials: The possession or use of firearms, firecrackers, explosives, toxic or dangerous chemicals, or other lethal weapons, equipment, or material is not permitted on College property (including College housing) at any time except when specifically authorized by the College for educational purposes or when firearms used for recreational purposes and transported through the Campus meet the regulations of the Campus Police Department.</p>	
<p>M. Alcoholic Beverages: No member of the College community shall possess or consume beer, wine, or other alcoholic beverages on College property, or any property which is under the direct control or responsibility of the College, excluding Residence Halls, in which case regulation of such shall be the responsibility of the Vice President for Student Services. This regulation shall not apply to the President's home and the Higgins Lake Cottage. This rule may be suspended from time to time by authorization of the President.</p>	

Student Complaint and Hearing Process

Every effort will be made to first resolve conflicts through informal discussions with the involved parties. If this fails, a written complaint may be filed as follows:

A. Complaint

1. A complaint alleging violations of a College rule and/or regulation may be filed in writing against any student through the Campus Police Department on a State of Michigan Standard Incident Report Form, UD-107. Complaints must be filed within a reasonable length of time. This report shall then be forwarded to the Office of the Vice President of Student Services for action.
2. After consultation with the student involved and after undertaking other investigations that may be appropriate under the circumstances, the Vice President of Student Services or designee shall take one of the following actions:
 - a. Dismiss the complaint.
 - b. Conduct an informal hearing and invoke a sanction if the alleged violation is admitted.
 - c. Refer to a Case Review Officer selected from a list prepared by September 1 each year by the Office of the President and named within three working days of the receipt of the complaint, barring unforeseen circumstances.
3. The action taken by the Office of the Vice President of Student Services will be communicated to the student in writing.
3. Within 10 working days of the receipt of a written request for a formal hearing, the Office of the Vice President of Student Services shall convene the Hearing Panel.
4. The Formal Hearing Panel will review all previous actions and conduct a formal hearing. Within 8 working days, barring extenuating circumstances, the Panel shall make a ruling specifying its findings.

Such ruling may result in:

- a. Confirmation of the action of the Office of the Vice President of Student Services.
 - b. Dismissal of all or a portion of the complaint.
 - c. Instructions to the Office of the Vice President of Student Services to invoke a specific sanction or initiate other disposition as the Hearing Panel deems appropriate under the circumstances.
5. The decision of the Hearing Panel shall be final except that action involving suspension or dismissal from the College must be ratified by the Office of the President before implementation.

B. Case Review

Purpose: To consider complaints referred by the Office of the Vice President of Student Services and to recommend appropriate action to be taken by the Office of the Vice President of Student Services.

1. The Case Review Officer will conduct a case review, normally including discussion with all parties involved, prepare a written report, and recommend that one of the following actions be taken by the Office of the Vice President of Student Services:
 - a. Dismiss the complaint.
 - b. Invoke a specific sanction.
 - c. Activate the Formal Hearing Panel.
2. The Case Review Officer will make a recommendation within five working days of receiving the complaint, barring extenuating circumstances.
3. Action by the Office of the Vice President of Student Services shall be communicated to students in writing.

C. Formal Hearing Panel

1. Members of the Formal Hearing Panel shall serve for one year (September 1 through August 31 of the following year) and include:
 - a. A non-voting chair designated by the Office of the Vice President of Student Services who has not previously ruled on the case.
 - b. Three students selected by the Student Senate Committee.
 - c. One faculty selected by the Faculty Executive Committee.
 - d. One staff member selected by the Senate President.
 - e. A sufficient number of alternates shall be designated to assure full panel representation when a hearing is scheduled.
2. The Formal Hearing may be requested:
 - a. By the student filing a written request with the Office of the Vice President of Student Services within five working days following notification of the action taken or
 - b. By the Office of the Vice President of Student Services.



"I love my job!"

"There's a part of me that wants to be a lifelong learner. Delta encourages that. Even as a faculty member, I'm aware that I have not yet 'arrived,' but am on a continuous educational journey. The general mood around the College is one of encouraging educational pilgrims along that journey."

Dana Everson,
Assistant Professor of Music,
has taught at Delta for 16 years

Safety and Security Information of 1992

Law Enforcement on the Campus

The Delta College Campus Police Department is primarily responsible for providing safety and security services, enforcing traffic and parking regulations, and conducting criminal and accident investigations. The Department is located in the Main Building, B-102, across from the East Main Entrance. The Campus Police Department is open 24 hours a day, 7 days a week excluding holidays, at which time officers of the Department are dispatched through Bay County Central Dispatch, for emergencies **only**.

The police officers of the Campus Police Department are deputized through the Bay County Sheriff Department and as such, have full police and arrest powers on Campus. These police officers are trained in the same manner as all other law enforcement officers in the State of Michigan and are certified as such through the Michigan Law Enforcement Officers Training Council. The officers also receive training in basic first aid and personal safety. The Campus Police Department maintains a close working relationship with federal, State, county, and other local law enforcement agencies and appropriate elements of the criminal justice system.

Reporting of Criminal Activities or Emergencies

To report a crime or an emergency, you should call the Delta College Campus Police Department at 686-9111 or for inter-College calls, dial Ext. 9111. A crime or emergency which occurs off-Campus should be reported to the police department having legal jurisdiction for that area. If you are unsure which department has jurisdiction, call 686-9112.

The Campus Police Department maintains two-way radio contact with Bay County Central Dispatch, providing access to assistance and support from the Bay County Sheriff Department, the Michigan State Police, Saginaw Valley State University Police Department, the Frankenlust Township Fire Department, Bay Medical Ambulance, and the Delta College Physical Plant Department.

Maintenance and Security of Campus Facilities

Delta College maintains a very strong commitment to Campus safety and security. Every effort is made to ensure that the Campus facilities, buildings, and grounds are maintained in such a manner as to promote safety and reduce criminal opportunity.

Exterior lighting is a very important part of this commitment. The College attempts to maintain adequate exterior lighting in parking lots as well as on the pedestrian walkways. Members of the College community are encouraged to report any exterior lighting deficiencies to the Campus Police Department or the Physical Plant Department. Written surveys of exterior lighting are taken by the officers of the Campus Police Department or by Physical Plant employees on a monthly basis.

Exterior doors on Campus buildings are locked and secured each evening by Campus Police personnel. Physical Plant personnel are responsible for the unlocking and opening of these exterior doors. Door and security hardware operating problems are also reported by these personnel on a daily basis. Problems in exterior door locking mechanisms should also be reported to the Campus Police or Physical Plant Departments.

Parking lots on Campus are actively patrolled by Campus Police officers and the Department also has a variety of alarms (including fire, intrusion, hold-up and trouble) to assist the officers in patrolling and monitoring the Campus.

Security Awareness and Crime Prevention Programs

It is the intent and desire of Delta College to prevent crimes rather than react to them after the fact. Delta College's crime prevention program is based upon the dual concepts of eliminating or minimizing criminal opportunities, wherever and whenever possible, and encouraging students and employees to be responsible for their own safety and security, as well as that of others. This program is accomplished in the following manner:

1. **New Student Orientation:** A crime prevention presentation accompanied by a brochure handout is made available to new students at Orientation.
2. **New Employee Orientation:** A crime prevention presentation accompanied by a brochure is made available to new employees being oriented to Delta College during each Fall Semester.
3. **Crime Awareness/Prevention Presentations:** Crime prevention presentations are made annually to various Campus groups.
4. **Closed-Circuit Television Surveillance:** Closed-circuit television cameras monitored by the Campus Police survey several restricted areas.
5. **Escort Service:** An escort service is available for the safety of students and employees (there may be times, however, when an officer is not immediately available for this service). Students, faculty, and staff are encouraged, for their own safety, to walk in groups and not to accept escorts from strangers.
6. **Printed Crime Prevention Materials:** Crime prevention brochures and posters related to crime awareness/prevention measures are distributed and displayed.
7. **Security and Facilities Surveys:** Surveys of exterior lighting, exterior doors, and grounds are conducted by the Campus Police Department/Physical Plant Department to promote and enhance safety and security.
8. **Operation Identification:** The engraving of social security numbers or owner-recognized numbers on items of value is strongly promoted and available at no cost to students, faculty, and staff.
9. **Crime Prevention Publicity:** Prevention articles and material are routinely published in the student newspaper, in the weekly bulletin and in the faculty/staff newsletter. This material is also on display in the showcase located in the hallway outside the Campus Police Department.
10. **Campus Update:** A monthly listing of on-Campus criminal activities and statistics is displayed in the Department showcase.
11. **Special Alerts:** If circumstances warrant, special printed crime alerts can be prepared and distributed either selectively or throughout the Campus. Because no campus is isolated from crime, the key to preventing crime is awareness, which is best achieved through education.
12. **A Sexual Offense Awareness/Prevention policy and program** is anticipated to begin by July 1, 1993. For further information, contact Campus Police.

This information is being provided to you as part of Delta College's commitment to your safety and security on its Campus and in compliance with the Crime Awareness and Campus Security Act of 1990.

Crime Statistics

Delta College believes that an informed public is a safety-conscious public. The following statistics, provided in compliance with the Crime Awareness and Campus Security Act of 1990, are for your information. A written request for crime statistics involving major off-Campus sites has been made to the police agencies having jurisdiction over each off-Campus site. Any crime statistics for these sites, which have been included in these statistics, reflect only those offenses which have been brought to our attention.

These offenses do **not** include "assists" to outside law enforcement agencies.

REPORTS:	1990	1991	1992
Murder	0	0	0
Rape	1	1	0
Robbery	0	0	0
Aggravated Assault	1	1	0
Breaking & Entering	2	2	2
Auto Theft	1	1	0

The following are arrest statistics for three offense categories for 1992 and the preceding two years. These statistics do **not** include arrests taken through the College's judicial process.

ARRESTS:	1990	1991	1992
Liquor	2	7	0
Drugs	0	0	1
Weapons	1	1	0

Access to Campus Facilities

Campus buildings and facilities are generally accessible to students, faculty, staff, guests, and visitors during normal hours of business Mondays through Fridays, and for limited designated hours on Saturdays and Sundays (this excludes most holidays). The exterior doors to the Campus buildings are generally open and allow access between 7 a.m. and 10 p.m.



Sexual Harassment

Sexual harassment is unwelcome sexual advances, requests for sexual favors, and other conduct or communication of a sexual nature when:

- Submission to such conduct or communication is made a term or condition, either explicitly or implicitly, of a student's employment or education.
- Submission or rejection of such conduct is used as a basis for employment or academic decisions.
- Such conduct substantially interferes with a student's employment or education, or creates a hostile, offensive employment or educational environment.

Basically, sexual harassment is when someone makes you think you'll get in trouble, lose your job, get a bad grade, or be denied a service unless you give in to sexual advances or put up with sexual remarks or actions.

What Can I Do About Sexual Harassment?

First, be sure that the harasser knows you do not welcome this conduct or communication. State your objections clearly when it first begins! Don't just hope the problem will go away.

If the harassment continues, don't keep it to yourself. Take your complaint to either the Affirmative Action Officer, who is located in A-2, or the Vice President of Student Services. Informal complaints are handled confidentially and may be resolved quickly. Talk to other students or coworkers and see if they observe what is happening to you. Ask if they have had similar problems with your harasser. Keep notes on when your problem occurred and what you said or did. This information will assist the College in handling your complaint.

Parking and Traffic Regulations

Parking Regulations

All individuals using a motor vehicle on Delta College property are expected to comply with College and/or State rules, regulations, and laws pertaining to parking, traffic, and vehicle use on College property. Violations of College parking rules and regulations will result in a parking ticket which will result in fines and penalties ranging from \$10 to having the vehicle towed away at the owner's expense. Operators in violation of State law provisions applicable to the Campus will be issued a traffic citation complaint, which will require the violator to appear in 74th District Court in Bay City.

Sec. 1 - Parking

The College has provided adequate parking space for all students, faculty, staff, and visitors. All vehicles which enter the property of Delta College are expected to comply with the College regulations pertaining to parking and traffic. Failure to comply with these regulations will result in Violation Notices being issued by an officer of the Campus Police Department.

Sec. 2 - Towing

The College maintains its right to tow any vehicle illegally parked on the Campus without warning at the expense of the owner.

Sec. 3 - Obstructing Traffic

Any vehicle parked on the Campus in such a manner as to obstruct the free flow of traffic or endanger the safety of the public shall be in violation of this regulation. Vehicle will be towed at owner's expense.

Sec. 4 - Abandoned Vehicle

Any motor vehicle left on the Campus for more than five consecutive days without being moved, and the owner/driver has not notified the Campus Police Department that the vehicle will not be moved, shall be deemed abandoned. Any vehicle parked on the Campus without current license plates attached shall also be deemed abandoned. Vehicles will be towed at owner's expense.

In an effort to control long term parking, the College requires the owner/driver of any vehicle which will be left parked for an extended period of time (more than five consecutive days without being moved) to report the necessary information to the Campus Police Department immediately.

Sec. 5 - Parking on Delta College Property

No person shall park, except when necessary to avoid conflict with other traffic or in compliance with law or directions of a police officer or traffic control device, in any of the following places:

- 5.01: At any place or location where official signs prohibit parking or stopping, including but not limited to posted Fire and Emergency Lanes, Bus Stop Zones, and Loading and Unloading Zones.
- 5.02: At any place or location where official signs designate such parking for specific use of handicapped persons, motor-driven cycles, or bicycles.
- 5.03: On any sidewalk located on the Delta College Campus.
- 5.04: Within 15 feet of any fire hydrant.
- 5.05: Upon the curb, grass, land islands, traffic islands, or median strips.
- 5.06: In reserved parking lots without proper authorization.
- 5.07: On the highway side of any vehicle stopped or parked at the edge or curb of a street.
- 5.08: Within any intersection, or blocking any public or private driveway.
- 5.09: On any street or roadway, or the shoulder of any street or roadway on the Delta College Campus.
- 5.10: In such manner as to prevent other vehicles from using legitimate parking spaces; i.e., straddling parking lanes, parked in two spaces, parked parallel to curb, or backed into parking space.

Sec. 6 - Car Pool Parking

In an effort to assist students, a special Car Pooling Area, located in the East Parking Lot, has been established. Permits for car pooling are obtained from the Campus Police Department. To obtain a permit, there must be three or more riders in a car at least three days a week. Parking in this special area is strictly enforced every day. A violation will result in a \$10 ticket; a second violation will result in the vehicle being towed at the owner's expense.

Sec. 7 - Fines and Penalties

All fines will double if not paid or an appeal is not filed with the Campus Police Department within 21 days after receipt of a ticket. Once a ticket is put on hold after the 21-day period, a service charge of \$2 will then be added. This would increase an original \$10 parking ticket to \$22. Also, after the 21-day period, all transcripts are placed on hold and will not be released until the fine is paid. Any outstanding parking fines that are not paid by the end of the semester will also result in the student not being able to register for the next semester.

Sec. 8 - Appeals

All requests for appeal of parking tickets should be directed to the Campus Police Department. An appeal form must be completed and returned to the Department. The Parking Appeal Board will meet at regular intervals to review appeals and complaints. The Board may either uphold the fine, dismiss the case, order the release of holds placed on transcripts, or allow registration for classes in accordance with these regulations. The Board shall also send written notices to individuals with fines outstanding, advising them of the penalties. The Board will also review and recommend changes in these regulations. The College reserves the right to make any necessary revisions to these regulations at any time, providing a two-week notice is published in the student and staff bulletins prior to becoming effective.

Sec. 9 - Handicapped Parking

The Campus has limited spaces reserved for handicapped drivers. Spaces are assigned on a semester basis. Persons may apply at the Office of Disabled Student Services (B-116). A doctor's letter describing the severity of handicap is required.

Traffic Regulations

Report all accidents to the Campus Police Department, whether they occur in the parking lots or on the roadways. A state accident form will be filled out as required. Most accidents occur in the parking lots while attempting to park your car or upon backing out of a parking space. Use care in parking and obeying traffic rules and regulations.

Note: Copies of accident reports will be furnished to insurance companies upon written request and payment of the required fee.

Sec. 1 - College Regulation

As a condition of the use of College roads and parking facilities, all vehicles on Delta College property shall be operated in a safe and courteous manner in obedience of all applicable State laws, all posted traffic signs, and directions of Campus Police officers.

All persons operating a vehicle on this Campus must show proper operator's license, registration, and proof of insurance when requested by Campus Police officers or other law enforcement officers.

Sec. 2 - State Law

Delta College Campus Police officers, as deputy sheriffs of Bay County, as well as other State law enforcement officials, have authority to enforce those provisions of State law applicable to the Campus. Operators in violation of such provisions can be issued a traffic citation, which will require the violator to appear in 74th District Court in Bay City.

Applicable provisions include:

OFFENSE

Failure to stop after PL accident
Failure to stop after PD accident
Driving under influence of liquor or drugs
Driving while impaired
Careless driving
Drag racing
Failure to stop leaving private drive
Manslaughter
Negligent homicide
Reckless driving

MI State Law

257.617
257.618
257.625
257.625a
257.626b
257.626a
257.652
750.324
750.325
257.626

Conviction of certain of these offenses may result in points being added to your driving record.

Sec. 3 - Penalties

Members of the Delta College community who are in violation of the above Sections 1 and 2, whether or not issued a citation under State law, shall also be subject to disciplinary action under the College judicial process.

Health Issues

Drug & Alcohol Guidelines and Resources

The following information is provided in compliance with the Drug Free School and Communities Act Amendments of 1989 Public Law 101-226.

Alcoholic Beverages: No member of the College community will possess or consume beer, wine, or other alcoholic beverages on College property, or any property which is under the direct control or responsibility of the College, unless a specific College-approved function permitting alcohol consumption has been authorized by the Office of the President.

Drugs: No member of the College community will manufacture, possess, distribute or use any prohibited drug in either the refined or crude form, nor will any member of the College community possess property which is used or intended for use as a container for any controlled substance except controlled substances for personal usage, and these must be under the current prescription of a licensed physician, or those specifically authorized to Delta College by federal or State authorizing agencies for educational purposes.

Violations may fall into one of several categories: 1. Minor offenses which are dealt with by reprimand; 2. Violations by students which are to be reported to the Office of the Vice President of Student Services; 3. Violations by faculty or staff members which are to be reported to the Office of the President; and 4. Civil or criminal violations which are to be reported to the Campus Police Department.

Severance Provisions: If any of the foregoing rules or any part of any such rule will be adjudged invalid by a court of competent jurisdiction, then such adjudication will not affect the validity of these rules as a whole or any provision or part of any such rules not so adjudged invalid.

Effect of Violating Rules: A member of the College community violating any of the rules of the College or a public law, on-Campus or off-Campus, at a Delta College-sponsored activity, is subject to disciplinary action by Delta college that is appropriate to the nature of the offense. Such disciplinary action will be taken in accordance with the procedures governing cases of violations as outlined in the Delta College judicial process.

Reports of Violations: Reporting of violations will be within the province of all members of the College community, because they have a common responsibility in maintaining an orderly and efficient community for their mutual benefit.

Health Risks

Abusing drugs or alcohol can: make you sick; lower your job performance; put you in prison; cause dependency; be expensive; **kill you!**

Alcohol use will: dull your senses; impair coordination; slur your speech; cause mood changes; depress brain functions; damage liver, heart, and pancreas; irritate your stomach; cause physical damage to your unborn baby; lead to irreversible brain damage.

Drug use will: increase your heart rate and blood pressure; cause tremors and convulsions; produce heart, liver, and kidney damage; injure your unborn baby; lower your resistance to disease-AIDS; cause personality changes, confusion, depression; lead to paranoia and hallucinations; **kill you!**

Contact any of the following free Campus resources. All inquiries and assistance are confidential.

Counseling Center (K-130) 686-9330
Professional counselors available to assist during a crisis or by appointment.

Health Services (B-103) 686-9333
Medical care, referrals, brochures. Sponsor of annual Health Fair and National Collegiate Alcohol Awareness Week.

Peer Listeners (H-137) 686-9086
Trained student volunteers who offer individual advice and referrals in an informational setting.

Campus Ministry (H-144) 686-9265
Non-judgmental, personal support for anyone wanting help with problems.

Student Support Services (H-137) 686-9010
Substance abuse prevention workshops, seminars, and community activities sponsored by the Governor's Initiative Against Drug and Alcohol Abuse Grant.

Human Resources Office (H-123) 686-9107
LIFE (Lifeline Information for Employees) program offering a confidential counseling and referral system for employees.

Community Resources include:

SAGINAW

AA 24-Hour Help Line	793-9093
Pathways, Saginaw Community Hospital	790-2272
Insight International	755-2173
DOT Caring Center	790-3366
Insight, The Recovery People	754-2301
Substance Abuse Services	755-0959

MIDLAND

AA	695-2975
Comprehensive Drug Service	835-7109
Alcohol Services of Midland County	832-6860

BAY CITY

AA	895-9136
Bay Haven	894-3799
Riverside Center	894-2991

National Drug Abuse Hotline 1-800-662-HELP

Transmissible Diseases

- Delta College will provide for students, faculty, staff, and local residents, educational information concerning Acquired Immunodeficiency Syndrome (AIDS). Information about symptoms, known means of transmission, and precautions for avoiding or reducing the risks is given on a periodic basis.
 - In response to AIDS inquiries which concern students or employees, no specific or detailed information concerning complaints or diagnosis will be provided to faculty, administrators, or parents without the expressed written permission of the individual in each case. It should be noted, however, that every possible effort will be made to address inquiries by explaining the extent of the College's educational programming and health safeguards concerning AIDS.
 - Acquired Immunodeficiency Syndrome has been included as part of Section 504 of the Rehabilitation Act (1973) which states that no individual shall be discriminated against solely by reason of his or her handicap.
 - The Infection Control Committee is helping Delta comply with the OSHA regulations for bloodborne pathogens.
- Factors to be considered include:
- The College Director of Health Services and the Director of the County Health Department, along with any other persons needing to be involved, will determine if a student has a transmissible disease, and if so:
- The possible consequences to fellow students and other members of the College community.
 - The risks to the infected student's personal health from remaining in the Campus environment.
- The Director of Health Services will notify the appropriate County Health Department of all cases of Hepatitis B, positive HIV, and other diseases required to be reported under State or federal law.
 - The Director of Health Services will establish procedures to reduce the frequency of needlesticks and exposure to human blood, blood products, or mucous secretions in order to reduce the risk of transmission of infectious agents.
 - All clinic instruments which contact a person's blood or mucous membranes must be appropriately cleansed, disinfected, or sterilized between uses and, if disposable, placed in a labeled container designed for such a purpose.
 - All needlesticks must be immediately reported to the proper supervisor for further evaluation.
 - Students receiving accidental needlesticks in the classroom should report the incident immediately to their instructors. Faculty and staff receiving accidental needlesticks in the performance of their work should report the incidents immediately to their supervisors.
 - All Health Services staff shall be educated with respect to the transmissibility of infectious diseases such as Hepatitis B and HIV.
 - Health Services shall use disposable needles and lancets which will be properly disposed of immediately after use.
 - Health Services will make information available concerning where testing for Hepatitis B virus, HIV antibodies, and other transmissible diseases can be received.
 - Health Counseling will be made available either with the College Director of Health Services or the County Health Department.
 - Health Services will observe strict confidentiality of all medical records so that no specific or detailed information concerning complaints or diagnosis be provided to faculty, administrators, or parents, without the expressed written permission of the patient. That position is supported by the amendment to the Family Education Rights and Privacy Act of 1974.
 - This statement will be periodically reviewed in light of the most recent medical knowledge concerning specific diseases to which it is applicable.

Records Access and Confidentiality

Access to and Confidentiality of Student Records

Each year the College informs students of the Family Educational Rights and Privacy Act of 1974 as amended. This Act is to protect the privacy of educational records, to establish the right of students to inspect and review their educational records, and to provide guidelines for the correction of inaccurate or misleading data through informal or formal hearings.

No one outside the institution shall have access to nor will the institution disclose any information, **other than Directory Information**, from students' educational records without the written consent of students except to qualified personnel within the institution, to officials of other institutions in which students seek to enroll, to persons or organizations providing student financial aid, to accrediting agencies carrying out their accreditation function, to persons in compliance with a judicial order, and to persons in an emergency in order to protect the health or safety of students or other persons. All these exceptions are permitted under the Act.

Within the Delta College community, only those members, individually or collectively, acting in the educational interests of students are allowed access to student educational records. These members include personnel in the Offices of Records and Registration, Admissions, Financial Aid, and Counseling, and academic personnel within the limitations of their need to know.

At its discretion the institution may provide **Directory Information** in accordance with the provisions of the Act to include: student name, verification of address, enrollment status, dates of attendance, degrees/certificates and awards conferred including dates, curriculum, participation in officially recognized activities and sports, and weight and height of members of athletic teams. Upon the publication of this notice, you are advised of the information which the College may release. Students may withhold Directory Information by notifying the Director of Records in writing. Request for non-disclosure will be honored by Delta College for only one academic semester at a time; therefore, requests to withhold Directory Information must be filed with the Director of Records one week prior to each semester.

The law provides students with the right to inspect and review all information contained in their educational records, to challenge the contents of their educational records, to have a hearing if the outcome of the challenge is unsatisfactory, and to submit explanatory statements for inclusion in their files if they find the decisions of the hearing panels unacceptable.

Delta College will permit persons who are or have been in attendance at the College to inspect and review their educational records. Students wishing to review their educational records must make written requests to the appropriate department listing the item or items of interest. Only records covered by the Act will be made available within 15 working days of the receipt date of the request.

Students may not inspect and review the following as outlined by the Act: financial information submitted by their parents; confidential letters and recommendations associated with admissions, employment, job placement, or honors to which they have waived their rights of inspection and review; or educational records containing information about more than one student, in which case the institution will permit access only to the part of the record which pertains to the inquiring student. The institution is not required to permit students to inspect and review confidential letters and recommendations placed in their files prior to January 1, 1975, provided these letters were collected under established policies of confidentiality and were used only for the purpose for which they were collected.

Students who believe that their educational records contain information that is inaccurate or misleading or is otherwise in violation of their privacy or other rights, may discuss their problems informally with the persons in charge of the records involved. If these persons agree with the students, the appropriate records will be amended. If not, the students will be notified within a reasonable period of time that the records will not be amended and will also be informed of their right to a formal hearing by the Vice President of Student Services.



"I Decided on Delta!"

"As a Native American Indian student, I feel Delta is a friendly, comfortable place to learn."

Richard Rodriguez
Bay City

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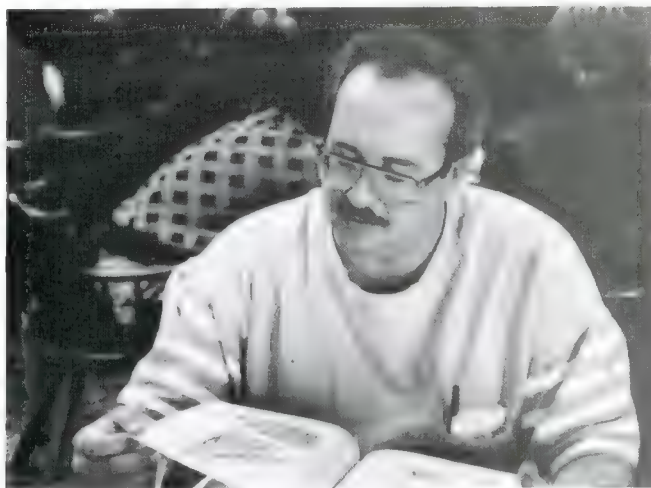
ZUBE, Duff
Director of Records
A.A. Delta College
B.A. Saginaw Valley State University
M.S.A. Central Michigan University



"I Decided on Delta!"

*"At Delta I'm getting a start on my pre-med/
chemical engineering degree close to home,
at a price I can afford."*

Tqunish Hamilton
Saginaw



"I Decided on Delta!"

*"It's close to home, offers the lowest tuition,
and has excellent availability. Delta makes
sense."*

Tom Metiva
Zilwaukee

Definitions of College Terms

Don't get lost in College jargon. Understand these terms, which generally are common to all colleges, and your academic life will be easier.

Academic Year: September through the following August. Includes the Fall Semester, Winter Semester, Spring Semester, and Summer Session.

Academic Credits: See Credits.

Accredited: Certified by a specific state, regional, or national organization as meeting standards of quality in instruction, staffing, facilities, finances, and policies.

Add: Changing your schedule by adding a course after your initial registration.

Admission: Being accepted by Delta so you can register for courses.

Assessment: Basic skills tests in English, reading, and math to assist you in selecting courses at the appropriate level. Generally, assessment is required for new students. See Section II, The Enrollment Process, Steps to Success for details.

Associate Degree: Degree (diploma) granted after successful completion of a program of study which has a minimum of 62 credits.

Audit: Registering for and attending a course, but receiving no grade or credits. Regular tuition and fees must be paid. Audits do not count toward completion of a program or graduation.

Centers: See Off-Campus Centers.

Certificate: Document granted upon successful completion of a program of study which has a minimum of 30 credits.

Concurrent Course: Often referred to as Corequisite. A course that must be taken during the same semester as another course is taken. Concurrent courses are listed at the beginning of the course description. See Section VI for Academic Course Descriptions.

Contact Hours: The total hours of lecture and laboratory instruction required for each course.

Corequisite: See Concurrent Course.

Course: A single subject, such as ENG 111, taken for one semester.

Credits: Also referred to as Academic Credits, Credit Hours, and Semester Hours. Each course is assigned a number of credits which generally indicates the number of hours per week the class meets; i.e., a three credit course generally meets three hours each week. Courses with labs and occupational courses, however, generally meet more hours than the number of credits they carry. Tuition and fees are ordinarily charged by credit.

Curriculum: Also called Program of Study. A group of specific courses which you are required to complete successfully in order to qualify for a degree or certificate.

Dismissal: Being required to leave Delta College due to a very low grade point average or unacceptable conduct.

Drop: Changing your schedule by dropping a course after your initial registration.

Dual Degree: An Associate degree that is earned by completing two specified curricula concurrently. Approved curricula combinations are listed in Section III, page 44.

Elective: A course you may elect (choose) to take as opposed to a course you are required to take.

Fees: Special charges for courses or services other than tuition.

Financial Aid: Money received from various sources (grants, loans, scholarships, jobs) to help students with college costs. Most, but not all, forms of aid are based on financial need.

Financial Aid Transcript: A document you are required by federal regulations to have every other college you attended send to the Delta College Office of Financial Aid, which lists any federal aid you may have received or states that you received no aid. Required of financial aid recipients before aid can be awarded.

Full-Time Student: Enrolled in 12 or more credits in a semester.

G.E.D. (General Educational Development): A high school equivalency certificate for adults who did not receive the traditional high school diploma. It is earned by passing the national G.E.D. exam, which may be taken through Delta Assessment/Testing Services Office.

General Education: A group of courses in the areas of social science, natural/physical science, communication, and humanities which provide a common and broadly-based body of knowledge.

GPA (Grade Point Average): The GPA is determined by dividing the honor points earned (see definition of honor points) by the number of credits attempted, excluding courses in which you received final grades of "P," "I," "X," "WP," "WE," "W," or "NC." The semester GPA includes grades in each semester; the cumulative GPA includes grades from all semesters at Delta.

Grade Dispute: The process available to you if you do not agree with the grade you received in a course. See Section IV, Academic Policies and Information, Disputed Final Grade Policy.

Grade Ombudsman: The staff member who will provide you with information and assistance in understanding and following the Grade Dispute process. At Delta, this person is Dr. Burt Fettig, K-132, phone 686-9220.

Graduation Requirements: Specific steps you must successfully complete to qualify for a degree or certificate. See Section IV, Academic Policies & Information, Graduation Requirements for details.

Grants: Money provided for educational expenses which does not have to be repaid. Also called gift aid.

Honor Points: Numerical values assigned to a letter grade for a course ("A" = 4 pts., "B" = 3 pts., "C" = 2 pts., "D" = 1 pt., "E" = 0 pts.), which are then multiplied by the number of credits assigned to the course; i.e., a "B" grade for a three credit course would have three honor points x three credits = 9 honor points.

In-District Student: A legal resident of Bay, Midland, or Saginaw county as defined by the Delta College residency policy.

Instructor-Initiated Drop: Being dropped from your course by your instructor for either lack of attendance or lack of the required prerequisites.

Loans: Money you borrow from your bank or credit union for educational expenses which must be repaid after you leave school.

MACRAO: A transfer agreement between many Michigan two- and four-year colleges, which standardizes the basic general education requirements. See Section III, Programs of Study, page 23, for details.

Ombudsman: See Grade Ombudsman.

Orientation: A program you will participate in as a new Delta student, which will acquaint you with the College facilities, programs, services, and procedures and during which a counselor will assist you in reviewing your program and selecting your courses. See Section II, The Enrollment Process, Steps to Success for details.

Out-of-District Student: A legal resident of Michigan, residing in a county other than Bay, Midland, or Saginaw.

Out-of-State Student: A legal resident of a state other than Michigan or of a foreign country.

Part-Time Student: Enrolled in less than 12 credits in a semester.

Prerequisite: Courses which must be successfully completed or requirements which must be met before enrolling in a specific course. Prerequisites are listed at the beginning of the course description. See Section VI for Academic Course Descriptions.

Probation: A warning status due to low grades or improper conduct.

Program of Study: See Curriculum.

Registration: The time when you enroll in your courses and pay your tuition and fees. See Section II, The Enrollment Process, Registration for details.

Required Course: A course in your curriculum that you must take as opposed to one that you elect (choose) to take.

Schedule of Academic Classes Booklet: A Delta publication which lists all the courses being offered that semester, the days and times when they will be offered, the location (on or off-Campus) where they will be held, the course fees, the instructors, and the registration schedule. These schedules are published for each semester or session.

Semester: Generally 15 weeks in length. The three semesters in an academic year at Delta are Fall (late August through December), Winter (January through April), and Spring/Summer (May through August).

Semester Hours: See Credits.

Session: Generally, 7 1/2 weeks in length, which is half the length of a semester. The two primary sessions in an academic year at Delta are Spring (May through June) and Summer (July through August).

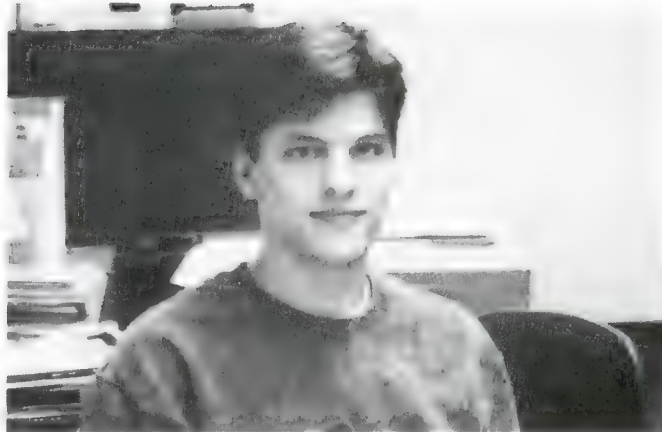
Service Credits: Credits assigned to Community Services courses. These credits are not applicable to a Delta Associate degree or Certificate and are not transferable to other colleges.

Steps to Success (STS): A process in which you will participate as a new student, which includes Assessment, Orientation, and Registration. See Section II, The Enrollment Process, Steps to Success for details.

Transcript: Your official Delta College record listing all academic courses attempted with grades, credits, and honor points; all transfer credits accepted; any credit awarded by examination or advanced placement; and your cumulative GPA.

Transfer: The official process of moving from attendance at one college or university to attendance at another college or university.

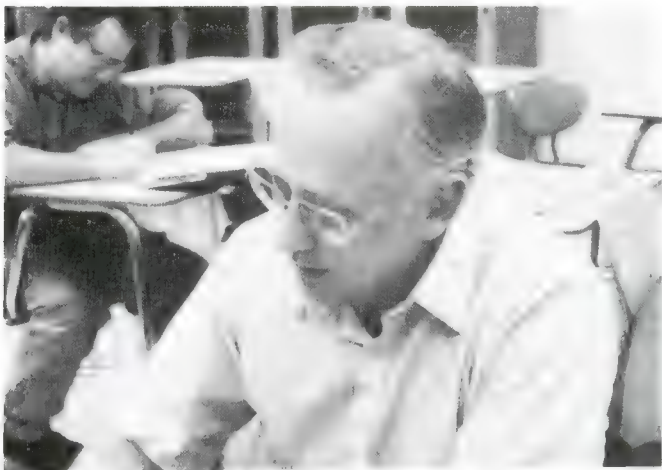
Tuition: The money you pay the College for instruction and services. A dollar amount is assigned to each credit. Tuition is determined by multiplying the dollar amount by the number of credits for which you are registering. In-District, Out-of-District, and Out-of-State tuition rates are different. See the Schedule of Academic Classes booklet for current tuition rates.



"I Decided on Delta!"

"I wanted to start out my college education at a community college to help ease the transition. I chose Delta because of the quality instructors. They help make learning fun and interesting."

John Diehl
Saginaw



"I Decided on Delta!"

"Delta offers the classes that I need and was closest to home. It was the best choice."

Jim Hoogerhyde
Midland

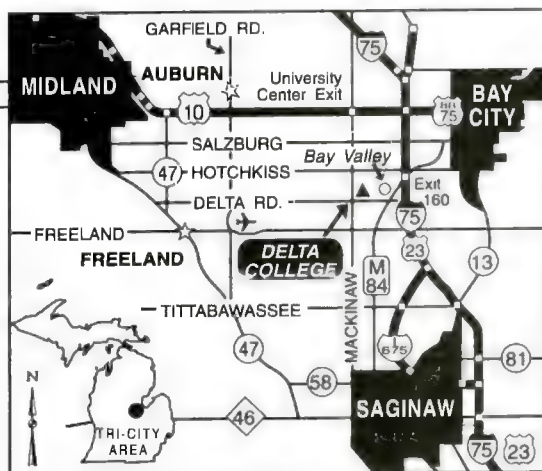
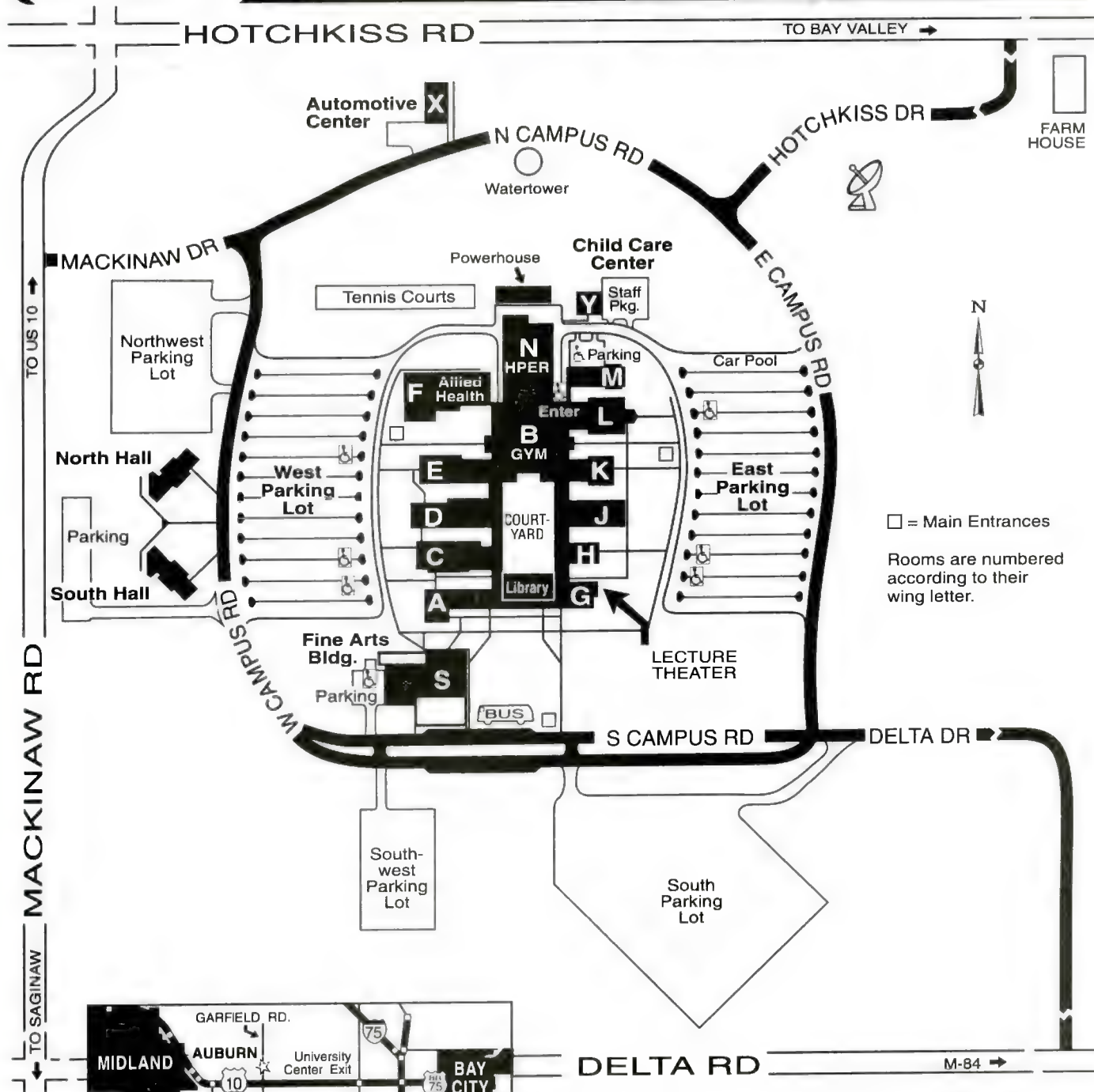
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		Who to Contact	Inside Back Cover



Delta College
We Are Your Opportunity

DELTA COLLEGE MAIN CAMPUS



From I-75

Take exit 160, turn south onto M-84. Go to the first traffic light and turn right onto Delta Road. Travel 1 mile and the College is on the right.

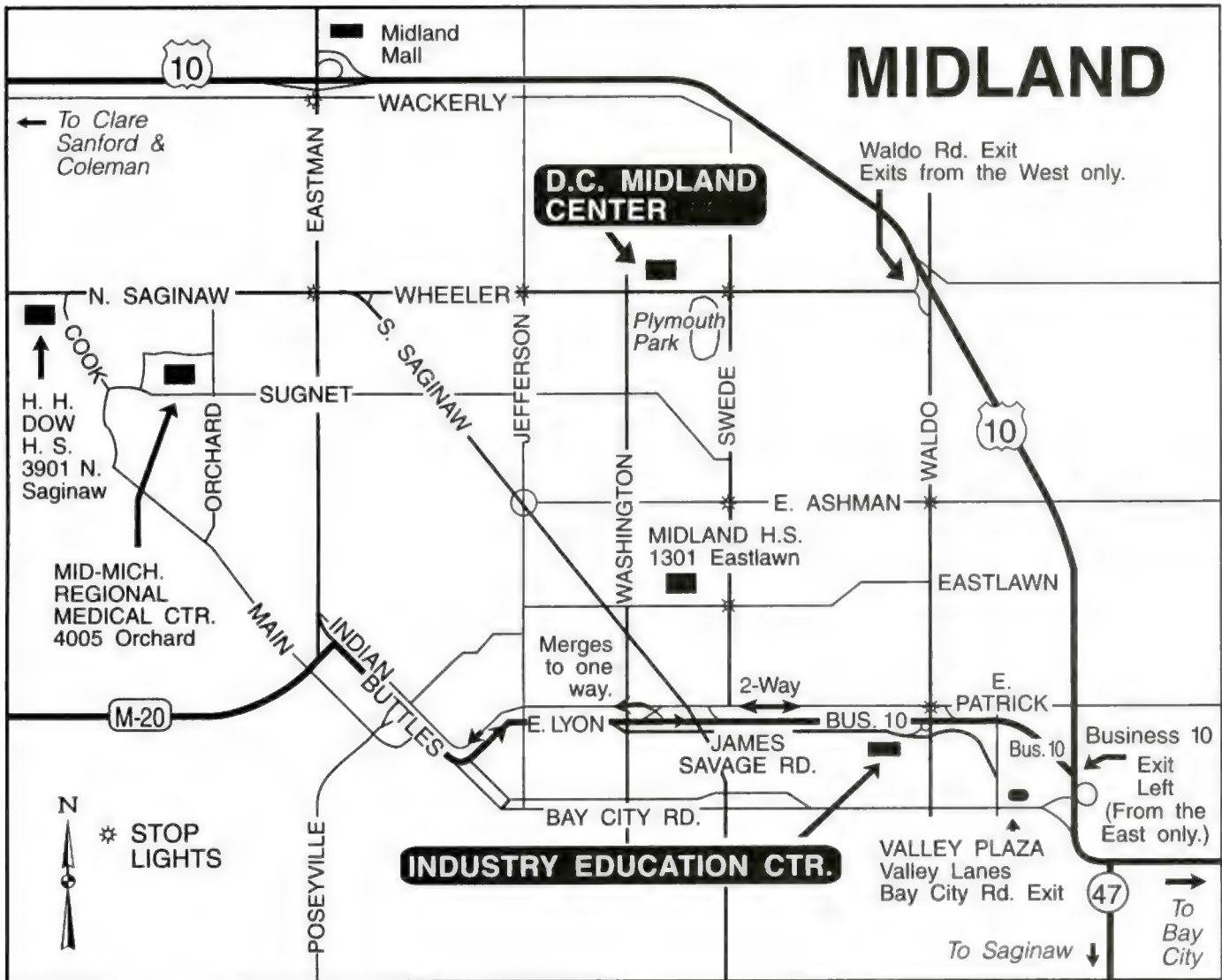
From US-10

Exit south at the Mackinaw Road exit onto Mackinaw Road. Travel about 2 miles, past the blinker light at the Hotchkiss Road intersection. College entrance is on the left.



Delta College
We Are Your Opportunity

DELTA COLLEGE MIDLAND CENTER & INDUSTRY EDUCATION CENTER



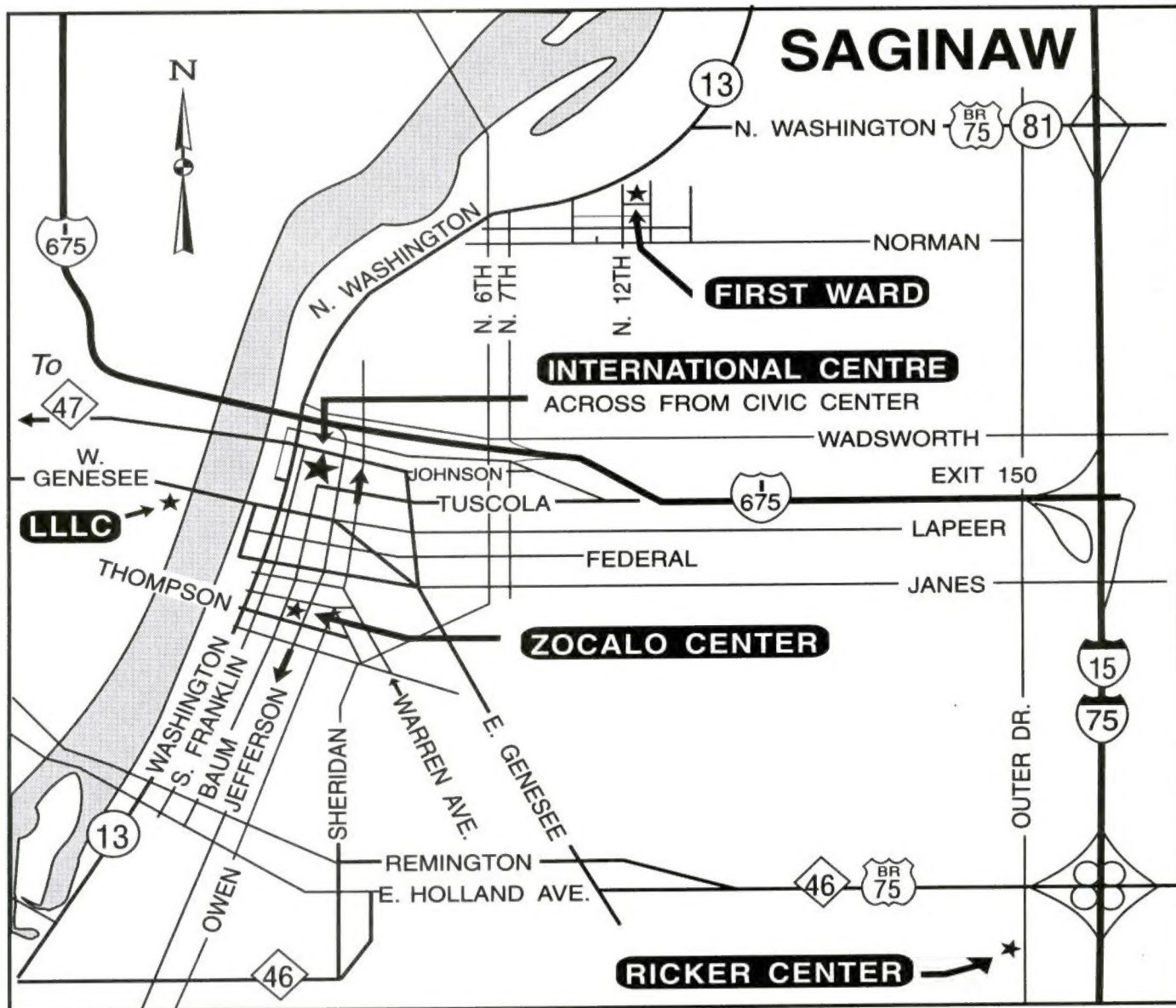
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(517) 835-2240

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Delta College
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DELTA COLLEGE SAGINAW CENTERS



First Ward

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Ricker Center

1925 S. Outer Dr.
(517) 752-7500

Ruben Daniel Lifelong Learning Center (LLLC)

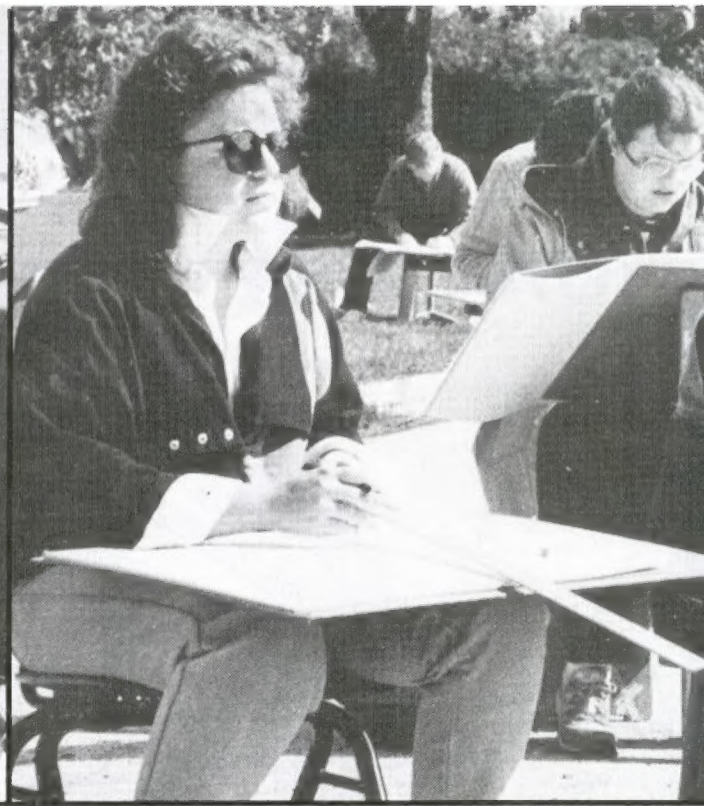
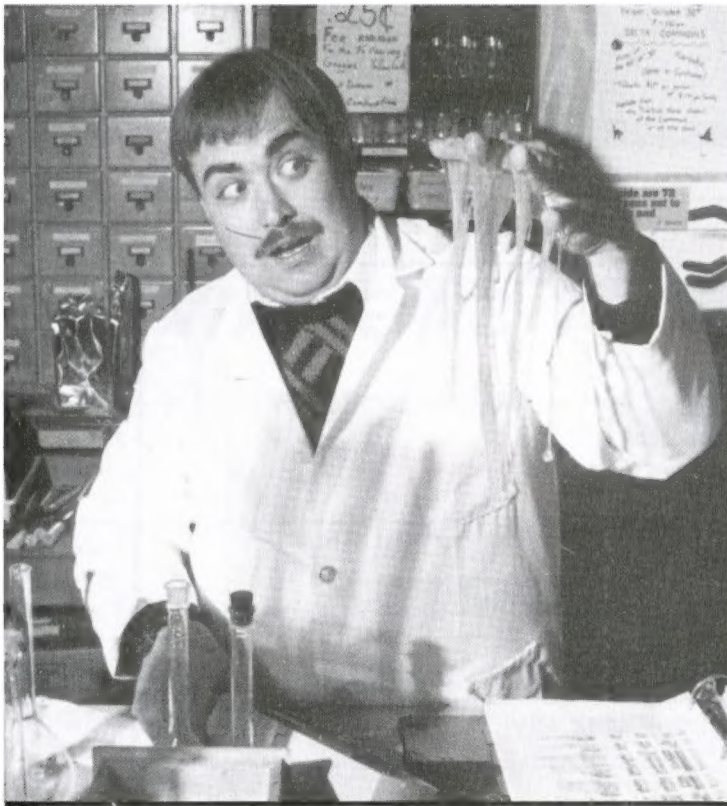
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International Centre

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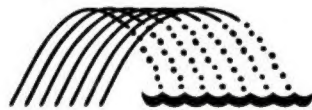
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Adding Courses	Records & Registration Office	A-Wing	9395
Admissions	Admissions Office/Welcome Center	Between C & D Wings	9093
Affirmative Action	Affirmation Action Officer	A-2	9547
African-American Services	Director	H-132	9121
Apprenticeship/Skilled Trades	Skilled Trades Coordinator	A-55	9438
Assessment/Testing Services	Welcome Center	C-130	9338
Bus Schedules	Instructional Support Services	E-130	9221
Campus Ministry	Campus Minister	H-144	9265
Career Counseling	Counseling Center	Between J & K Wings	9330
Career Information	Career Planning Services	East Concourse	9072
Centers, Off-Campus	Instructional Support Services	E-130	9221
Child Care, Pre-School	Child Care Center	Y-100	9334
Clubs & Organizations	Vice-President Student Services	A-119	9340
Community Service Programs & Courses	Community Services Office	E-130/West Concourse	9412
Conduct, Rules & Regulations	Vice President of Student Services	A-119	9340
Conferences	Food & Conference Services	B-35	9037
Co-Op Education	Co-Op Coordinators	F-40	9474
Corporate Services	Corporate Services Office	International Center	758-3602
Dropping Courses	Records & Registration Office	A-Wing	9395
Disabled Student Services	Office of Disabled Student Services	B-116	9096
Dismissal Status	Records & Registration Office	A-Wing	9395
Disputed Grades	Grade Ombudsman	K-132	9220
Financial Aid	Financial Aid Office	J-100	9080
Grades	Records & Registration Office	A-Wing	9395
Graduation, Requirements & Applications	Records & Registration Office	A-Wing	9395
Handicapped Services	Office of Disabled Student Services	B-116	9096
Hispanic/Native American/Asian Services	Chicano/Latino Services	H-Bay	9125
Honors Program	Honors Office	E-130	9617
I.D. Cards	Admissions Office/Welcome Center	Between C & D Wings	9093
Illness, Injury, Health Concerns & Insurance	Health Services	B-103	9333
Incomplete Grades	Course Teacher	—	—
International Students	Admissions/Welcome Center	Between C & D Wings	9093
Jobs, Part/Full-Time, On/Off-Campus	Placement Center	East Concourse	9074
Judicial/Due Process	Vice President Student Services	A-119	9340
Library	Learning Resource Center	Main Bldg., South End	9307
Lost and Found	Campus Police Department	B-101	9111
Orientation for New Students	Counseling Center	Between J & K Wings	9330
Parking	Campus Police Department	B-101	9111
Personal Problems	Counseling Center	Between J & K Wings	9330
Planetarium Programs	Planetarium	B-203	9412
Probation Status	Records & Registration Office	A-Wing	9395
Public Relations	College Relations Office	A-Wing	9228
Registration	Records & Registration Office	A-Wing	9395
Residency Qualifications	Admissions/Welcome Center	Between C & D Wings	9093
Rights, Student	Vice President of Student Services	A-119	9340
Security, Campus	Campus Police Department	B-101	9111
Sexual Harassment	Affirmative Action Office	A-2	9547
Single Parent/Homemaker & Sex Equity Program	Director	East Concourse	9390
Sports, Intercollegiate & Intramural	Health, Phys. Ed. & Recreation	N-140	9023
Teaching/Learning Center	Director	East Concourse	9314
Telecourses	Telelearning Network Services	West Concourse, A-61	9398
Textbooks & Class Supplies	Bookstore	Commons, NW corner	9031
Traffic Regulations	Campus Police Department	B-101	9111
Transcript Requests	Records & Registration Office	A-Wing	9305
Transfer Credit Acceptance	Records & Registration Office	A-Wing	9305
Transfer to Another College	Counseling Center	Between J & K Wings	9330
Transferability of Delta Courses	Counseling Center	Between J & K Wings	9330
Tutoring	Teaching/Learning Center	East Concourse	9314
V.A. Benefits, Certification & Information	Veterans Office	A-Wing	9465
Volunteer Program	Volunteer Services Office	East Concourse	9336
Withdrawal from College	Records & Registration Office	A-Wing	9395



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